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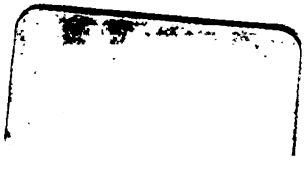

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THE

CHICAGO MEDICAL

Journal and Examiner.

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N. S. DAVIS, M.D., LL.D. JAS. NEVINS HYDE, A.M., M.D.

DANIEL R. BROWER, M.D.

VOLUME XLI,

JULY TO DECEMBER, 1880.

CHICAGO:
CHICAGO MEDICAL PRESS ASSOCIATION.
1881.

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TUCKER, NEWELL & CO.,
PRINTERS,
104-106 MADISON ST., CHICAGO.

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THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLI.—JULY, 1880.—No. 1.

Original Lectures.

ARTICLE I.

STONE IN THE BLADDER. A Clinical Lecture delivered at the College of Physicians and Surgeons of New York, by Dr. R. F. WEIR, Lecturer of Diseases of the Genito-Urinary Organs.

What I have to say to-day is on the subject of stone. I have already shown you the production of ammonia in alkaline urine and how the changed urine allows the earthy salts to be deposited, which, uniting with the mucus of the bladder, may result in the formation a calculus. This form of stone may be called the inflammatory stone. But there are calculi which may arise from a urine too heavily laden with salts, as is seen in the summer time or when we catch cold, when the water and the phosphates are often thrown down as a red, or pinkish, deposit. We are more likely, however, to have this taking place in the kidney than in the bladder. There are, besides the usual constituents of the urine, certain other substances, such as xanthin and cystine, which occasionally constitute the nucleus of a calculus, but of all

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the various salts and organic deposits, uric acid and its compounds are by far the most frequent nuclei of stone.

Some years ago, an analysis of the nuclei of some sixty-two cases of stone was made by Mr. Carter, at that time a surgeon of India. He found that out of the sixty-two calculi, thirty-four were formed of urates; twenty-one of oxalates; seven of uric acid, pure. This was in India. When he came to England he then made another analysis, but this proportion did not obtain there, the uric acid compounds constituting 71 per cent. of all the stones, and the oxalates going down in the scale to 29 per cent., as against 56 per cent. uric acid compounds to 44 per cent of oxalates, in India. It is evident that the difference is owing to a difference in diet, the articles of food in India being largely farinaceous and thus producing more oxalates of lime.

Why then, if we are subject to deposits of salts such as these in the bladder, do we not all have stone? The fact that these deposits go to the formation of stone is not the only reason. Another condition is necessary. Carter found some peculiar rhomboidal crystals of urates and oxalates which he had not seen before, which were explained by the researches of Messrs. Ord and Ranney. They found that such submorphous or molecular forms of crystallization resulted from the presence of a certain gluey or colloid material in the bladder. They could be formed by placing two solutions, one of oxalate of potash, one of chloride of calcium, in a test tube, separated by a solidified solution of gelatine, when in the gelatine solution the same peculiar form of crystallization were to be seen which he had found in the urine, in the presence of the colloid or gelatinous matter, so he came to the conclusion that the presence of this colloid material in the bladder was essential to the production of a stone.

This tells us why these conditions occur in one kidney and not in another and why it is that calculi occur so frequently in early life (the must common period, except in adults past the age of 55 the subjects of bladder inflammation). Children are more apt to have temporary congestion of the kidneys, and when this takes place, this gluey material is poured out and we sometimes find, if we examine the urine, hyalin tubular casts, consisting of their colloid matter—casts, however, which are not of much impor-

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tance luckily. When this colloid material, entangling some salts, happens, usually a healthy stream of urine breaks it down and washes it away. However, sometimes the nucleus may stay and grows into a calculus of increased size. When such a nucleus does take up its residence, either in the kidney or in the bladder, the inflammation which it excites as a foreign body causes an increased secretion of mucus, which, mingling with the urine, induces fermentation. The urine then becomes alkaline, and the earthy phosphates are deposited around the nucleus, causing the whitish layer so often seen in calculi. Here, however is a calculus in the kidney which is quite unique. It is a cystine one, weighing 175 gr. Cystine calculi are rare. This constituent of urine differs from the others, in that it has sulphur in it, which the others have not. It is this which gives it its peculiar character. When cut open such a calculus is soft, greasy, yellowish in color and fractures easily.

When a stone is formed in the kidney it may remain there for years, or it may ulcerate into or out of the pelvis, of the kidney, or it may stay in the ureter or get into the bladder, growing very large sometimes in both localities. The largest on record, found in the bladder, weighed six pounds. Such large stones are grasped by the bladder, so that the sound cannot pass it. Fifteen ounces is the weight of the largest stone that has been removed by operation. Here is one in the kidney weighing 54 ounces. I have said that a stone may remain in the kidney for an indefinite length of time. When that is the case the patient complains of vague pains in the region of the loins. He will suffer from increased frequency of micturition. His urine may be tinged with blood, evenly disseminated through the entire quantity. These will be all the symptoms, which are confessedly obscure, unless the stone pass out of the kidney into the ureter. In that case there will be intense pain in the loins from distension of the ureter, extending around the belly and into the testicle. Vomiting is also sometimes present. These symptoms may last from a few hours to several days, and then suddenly pass away. If you are called to such a patient and have relieved him by hypodermic injections of morphine, with which you ought to combine 1-100 of a grain of atropine, you must carefully inspect the urine for sev-

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eral days to see if the renal calculus has been passed per urethram. If it should stop in the ureter and there stay and your patient have another attack, and that on the other side, suppression of urine might take place. Roberts, of Manchester, has seen a number of cases of this sort. In such cases the specific gravity of the urine goes down to 1.002, 1.003 or 1.004. When there is pressure on the kidney, but little urine filters through and there is a diminution of the urea. How can such a condition of things be appreciated other than by these symptoms? You may explore the ureter through the rectum, and if the stone could be felt at one of its usual stopping-places, just at the bladder, it might be squeezed through the ureter into the bladder. If that condition did not exist, I do not think I should hesitate to make an incision into the loin and if the calculus were found at its other favorite place of arrest, within four inches of the kidney, to extract it and run the risk of making a urinary fistula and so perhaps save life. Something is to be said regarding the preventive treatment of renal calculi. It may arise, as I have stated, from an increased quantity of salts in the urine. Sedentary habits or indigestion may increase the amount of salts in the urine. These conditions are to be corrected. In certain regions of the country more cases of stone seem to arise than in others—notably the limestone regions, but in this case I do not think that it is the amount of lime taken into the system (which is very small) that occasions stone, but the fact that the lime salts interfere with digestion and so set up, through impaired retrograde metamorphoses, this condition before shaken off, namely a urine too heavily laden with salts.

After cholera epidemics it has been noticed that there will come an epidemic of stone in the bladder. In that case there is a thickened condition of the blood, the loss of the watery constituents being the result of the diarrhœa. In that way the circulation is laden with concentrated material and gives rise to this same excess of salts in the urine. Such a condition is also found in people addicted to the use of malt liquors and in the gouty diathesis. You will make such patients take plenty of exercise. Let them keep their skin in good condition so that too much labor may not fall to the kidneys. Can we do anything

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else? I think we can. Tell such a patient to avoid concentration of urine. At night time it is most concentrated and it remains in the tubules longest. You know that when you wish a specimen of urine for examination you always order the urine which has been passed first in the morning to be brought to you. That is because it is most concentrated. Your patient then should take a tumbler of water on going to bed, so that the urine in the tubules may be washed into the bladder, even if he has to get up to urinate towards morning. For medication, you may order the citrate of potash to be given, in doses of from forty to sixty grains three times a day. This can be taken for a long time without deranging the digestion. The Richfield Springs water in this country and the Carlsbad in Europe is very useful in maintaining a neutral condition of the urine. They owe their alkalinity to the sulphate of soda and potassa which they contain. They render the urine alkaline by virtue of these salts and do away with the clogged action of the liver, which is often the starting point of a calculus. By means of alkalies and purgatives we may hope to rid the patient of his troubles. The citrate of potash should be used fresh, as when kept it deteriorates. Natural mineral waters are preferable to the artificial. Sir Henry Thompson of London says that the natural waters do their work better than the artificial, although he cannot explain why. In the absence of the natural water the salts which are obtained from the natural waters by evaporation may be used. A teaspoonful of Carlsbad salts may be added to a tumbler of water and drank before breakfast in the morning. If taken warm, its purgative action is quickened. There are other useful mineral waters which you may rely on for treatment in these disorders. There is the Friedrichshall, which contains 58 per cent. of the sulphate of soda, and the Marienbad. But there is a water which is much more effective than any of these—the Hunyadi Janos. It is more pleasant to take than the bitter water of Friedrichshall and contains in 10,000 parts, 225 grains of the sulphate of soda and 223 grains sulphate of magnesia. It is fully twice the strength of any of the others. If your patient cannot buy the waters he can use Glauber's salts, which act nearly in the same way. Let him dissolve a teaspoonful of the salts in a tumbler of water.

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Let it stand over night and drink in the morning. Increase the quantity if this does not act, for otherwise gas will accumulate in the stomach and bowels and cause distension, colicky pains and unpleasant rumblings. I have spoken of the citrate of potash before and told you that, as kept in the shops, it is often inert. Perhaps the best way to administer it is to make it extemporaneously by the reaction of citric acid and the bicarbonate of potash This mixture may be taken while effervescing.

So, when you can, let the patient take the natural mineral waters, for they are the best, but if they are beyond his means, you will have to fall back on these preparations, and they will do you good service.

ANTISEPTICS IN OPHTHALMIC SURGERY.—Galezowski (*Recueil d'Ophthalmologie*, November, 1879) recommends antiseptic precautions for most operations on the eye, principally, however, in enucleation, operations on the lids, etc., and cataract extraction. All the instruments used, as well as the sutures and sponges, should be dipped in a solution of carbolic acid, 1 to 1000(!), and the wound, as well as the skin round about, washed with the same solution. More concentrated solutions may be used in the case of enucleation, and the compresses must also be carbolized, etc. Galezowski also uses other antiseptic applications, such as boracic acid and vaseline, 1 to 100, in abscess of the cornea, also a 1 per cent, solution of boracic acid for the purification of instruments to be used in cataract operations. Galezowski has had most excellent results since he has begun his antiseptics. It is difficult to see how failures could occur at all with such precautions.(!) This subject was also discussed at the Amsterdam Congress, where it was introduced by Snellen, who uses a one per cent. solution of carbolic acid. He finds a spray impracticable, and has used instead, with great success, a current of air purified by being caused to pass through carbolic acid. As a dressing he uses linen saturated with vaseline, as he finds that the usual antiseptic dressings are too irritating, and causes an increased secretion from the conjunctiva and palpebral glands.

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Original Communications.

ARTICLE II.

SELECT TOPICS OF MODERN SURGERY, Illustrated by Cases from Hospital Service and Private Practice. By Drs. E. W. LEE and CH. FENGER, of Chicago.

TUBERCULOSIS OF JOINTS, WITH THREE CASES OF EXCISION.

Tuberculosis of the knee-joint. Excision by Dr. Ch. Fenger.

The discussion of the subject of exsections of the knee-joint which follows, is abridged from a clinical lecture delivered in Cook county hospital, where the operation was made.

Exsection of the knee-joint is generally considered a serious, not to say dangerous, operation. We shall now first consider this point; then its indications in general and in this case; and finally the methods of operating which this case is intended to illustrate.

For the danger to the life of the patient we must seek information in the statistics.

A series gathered by König (Beiträge zur Resectionen des Kniegelenkes. *Langenbeck's Archiv.* ix B. p. 177, and Holmer Hospitalstidende Optegnelser of praktisk Lägekonst, 23 October, 1872) is as follows:

Surgeon.	*Good Result.*	*Failure.*	*Mortality.*
Hodges	44 per cent.	56 per cent.	33 per cent.
Holmes	62 "	38 "	28 "
Heyfelder (children and adults)	60 "	39 "	30 "
Heyfelder (adults)	44 "	56 "	39 "
Price	56 "	43 "	27 "
König (children)	62 "	37 "	19 "

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These statistics were gathered about 1870, and show a mortality of about 30 per cent. This is the death rate of the statistics of Pénières (Des resections de genoux Paris, 1869), who found in 431 cases of excision of knee-joint for white swelling, 131 deaths, that is 30 per cent.

From English surgeons, however, we have smaller series of operations, with far better results.

Fergusson reports in an old series.....	31	cases with	11	deaths.
In a later series.....	20	" "	5	"
Humphrey reports.....	39	" "	6	"
Jones reports.....	19	" "	2	"

In considering the value of the statistics there are two interesting facts.

1. The age of the patient has great influence on the death rate, as shown by Pénières:

Age.	*Death Rate.*
From 0 to 5 years.....	38.8 per cent.
" 5 to 10 "	15 "
" 10 to 15 "	18.9 "
" 15 to 20 "	32.7 "
" 20 to 25 "	35.7 "
" 25 to 30 "	37 "
" 30 to 40 "	45 "

In one series of Pénières were 30 excisions in children from nine to eleven years without a death. The death rate is lowest therefore in children from five to about 20, and the danger as the age advances gradually increases.

2. The period in which the operation was performed is next in importance, insomuch that we find the death rate from the early days of this operation by surgeons to a recent date to be steadily decreasing. Pénières gives the following statistics on this point:

From 1762 to 1830	there were	11	excisions,	6	deaths.	Per cent.,	54.5.
" 1838 to 1850	"	21	"	11	"	"	52.3.
" 1850 to 1860	"	246	"	73	"	"	27.
" 1860 to 1869	"	155	"	42	"	"	27.

Better methods of operating, better after-treatment and better knowledge of the indications for the operation may account for this decrease in death-rate. But even in 1873 the average death rate was not below 27 per cent. Exceptions were Fergusson's

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second series, 25 per cent.; Humphrey's series, 15 per cent.; and Jones' series, 10.6 per cent.

In Germany up to this time (in 1873) the death rate is considered by Volkmann to be about 50 per cent. (Sammlung Klinisher Vorträge, R. Volkmann, Die Resectionen der Gelenke, 1873). Very naturally, therefore, Volkmann preferred the expectant treatment in white swellings of the knee-joints in the absence of fever and wasting discharges that threaten the life of the patient.

The next and latest important step toward a more favorable result for this operation is Lister's method of operating and dressing.

In 1872 Holmer of Copenhagen made four excisions for white swelling, with three good results, one secondary amputation and no deaths.

In 1875, '76, '77 Volkmann made thirty-two excisions for the disease with no deaths from the operation. One patient died several weeks later of tubercular meningitis.

It is now impossible to know the exact danger to life from this operation. We cannot expect to reduce the death rate to zero by antiseptic methods, for that would be perfection. We can only hope to come nearer and nearer the ideals without ever reaching them. But the latest statistics from other fields of operative surgery give us the right to expect that excision of the knee-joint will henceforward be an operation devoid of very great danger whenever all its details and after-treatment are performed with strict antiseptic precautions. But the surgeon must have patience to attend to all the little details of the antiseptic method, on each of which the life of a patient may depend.

The object of excision of the knee-joint is obvious. It is to save a limb that otherwise must be lost sooner or later by amputation, this latter operation being finally required in cases where recovery is hopeless by abatement of the inflammation or by such firm anchylosis in a false position as will not give the patient a useful limb.

By this operation we create a firm anchylosis which the patient can use continuously without pain or fatigue.

The question now is, can we accomplish this purpose of the operation without months of confinement and suffering in bed for

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the patient, with such abundant suppuration as would endanger his life from exhaustion, amyloid degeneration of the kidneys, liver and spleen, even if he should escape pyæmia?

From Hodges' statistics, Gant puts the average time of after-treatment at eight months. This is a long time if the patient must remain in bed and sustain a constant suppuration.

Fortunately this is not the case. As soon as a solid osseous union has taken place between the cut ends of the femur and tibia we may allow the patient to be about on crutches. Fergusson has had patients up in this way in three to six weeks after the operation; but such cases are regarded as fortunate exceptions. Holmer had his patients up and on crutches after three or four months.

Under the Lister dressing suppuration is sometimes reduced to a mere trifle, generally to a moderate amount; so there is no danger from exhaustion.

If then, the patient can expect to be up after an average of three months and be sure of a useful limb after other three or six months, he is far better off than he could be without the operation.

The history of this case is as follows:

James C., æt. 15 years, clerk (in chair factory), entered Cook County Hospital July 15, 1879. None of his relations have suffered from consumption or cancer. Had measles and typhoid fever in childhood; always healthy since. Two years ago he received a kick from a playfellow upon his left knee. Pain disappeared in a few days and there was no swelling. Three or four months later the knee-joint began slowly to swell and be occasionally painful; and motion became gradually impaired. The joint felt to him stiff. The knee remained in this condition about six months, during which time he could walk, run and jump without much pain. Then one day, when jumping, he suddenly felt severe pain in the joint and he was obliged to sit down two hours. The pain gradually subsided and soon he was able to run about again for a short time. But gradually the swelling increased, pain came on and he got easily tired.

About a year ago abscesses formed and opened on the outer and inner sides of the joint near the hamstring tendons. Fistulæ

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were left which discharged six months; they closed to break open later again and again close up. No spiculæ of bone were discharged to his knowledge.

Contracture now came on and the leg was at last flexed at nearly a right angle and motion was limited to twenty degrees. In spite of this condition he could, most of the time, hobble about, bearing some weight on the leg; but the leg easily tired, and on stepping upon an uneven surface or jarring the knee, pain was produced. He is constanly afraid to have any one come near the limb for fear of hurting it.

On July 3d (12 days ago), while at work, a sudden pain came on and the knee got worse. Now any considerable motion causes pain. In perfect quiet pain is absent. As to previous treatment he says at one time a doctor tried to aspirate the joint, getting no fluid. Another time a blister was applied over the joint with the effect of ameliorating the condition.

He is now slender, pale and lean. The heart, lungs and abdominal organs are healthy. The urine has no sugar or albumen. The left knee is enlarged forming a prominent round tumor. The joint is flexed to about 110 degrees and motion is allowed of only 10 degrees; attempts to increase the range of this causes pain.

The relative position of the crus to the thigh at the joint is that of genu varum, knock-knee. This means a partial dislocation due to weakening or partial destruction of the internal lateral ligaments. On the sides of the joint are depressed reddish spots, the seats of the closed sinuses. The patella is immovably fixed to the fossa of the condyles of the femur. The swollen soft tissues form a uniform softish somewhat elastic mass, like India rubber of medium hardness. There is no fluctuation or other evidence of fluid in the capsule or outside the joint. Pressure upon the mass does not cause pain except at two points on the sides corresponding to the spaces between the joint surfaces covered by the lateral ligaments.

We have here a chronic fungous arthritis, or white swelling.

The constituents of the joint are already partially destroyed as proves the adherent patella and weakened internal ligaments and the partial anchylosis, i.e. the impaired motion.

We have now to ask what would be the result of this case without operation.

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The destructive inflammation here has been slowly progressing; motion has grown less and less, partly from tenderness and pain, partly from false position. We have for the three weeks he has been in the hospital tried gradual extension (by weight and pulleys) to correct the flexion, and hot fomentations for the pain. The treatment has not had the slightest effect. We then have left the choice between forcible extension of the joint under anæsthesia, and immobilization with plaster of Paris, or starch, and excision.

The liability of the inflammation at the bottom of the old sinuses to be lighted up anew speaks against immobilizing bandages. They would have to be removed at intervals. This would make recovery by anchylosis in good position unlikely to occur. This treatment would probably be interrupted by abscesses that might extend up and down between the muscles and make amputation necessary, and excision, if it was to be made, much more uncertain of a good result.

The age of the patient is in favor of excision, and a solid union of the bones with diseased soft parts removed is decidedly preferable to a more or less complete anchylosis with diseased tissues remaining between and around the epiphysis of the bones, because in this case there would always be a liability to a relapse of the inflammation.

Excision being then decided on, the next question is the plan of operating.

1. Esmarch's bandage for operating without bloodshed should be used when there is no danger of pressing pus or infectious thrombi of the veins, up into the healthy soft parts above the seat of operation. As there are no abscesses and no œdema we shall use it here. Besides avoiding blood loss, this method enables us to distinguish the character of tissues with much more exactitude than we could without it. It is not only consistency but color that indicates what tissues are to be removed, and what not. The well-known light yellowish gray color of cheesy matter means fatty degeneration of the tissue—that it is dead or dying and must be removed.

2. The incision that gives the easiest access to all the different parts of the joint is the semilunar cut commencing at the tuberosity of one of the condyles of the femur, a right handed

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operator will commence it at the internal condyle of the right knee and the external of the left, coming down toward the tuberosity of the tibia and returning to the other condyle. It divides the inferior patellar ligament and subjacent adipose tissue. These parts lifted up give an easy access to the joint.

3. After division of the lateral and cruciatic ligaments a forcible flexion of the joint will show us the condition of the joint and enable us to bring the epiphyses to turn out so that the diseased part may be sawed off. For this purpose we use Butchers' saw and cut the femur from the joint backward.

As to the line of the cut, if this is parallel to the line uniting the lowest points of the two condyles, we will remove too much of the external condyle and get after coaptation a position of knock-knee. If we cut in a line perpendicular to the longitudinal axis of the femur we remove too much of the internal condyle and the opposite deformity is the result i.e., bow-legs. Linhard advises to cut just between the two lines described. Of the epiphysis of the tibia we remove a disk, cutting from the posterior surface anteriorly and parallel to the articular surface.

As to the thickness of the disks to be removed, we should remove all the bone diseased but not a particle more. We should endeavor furthermore to have two even surfaces of equal size of bone that perfect union by first intention may if possible take place.

In children the epipyseal line has a certain importance for the future growth in length of the bones of the limb. If possible we should spare the whole or a part of the epiphyseal cartilage. Anatomical investigations by Giraldez place the limits beyond which we are not to go as follows: In the condyles of the fermur, 2 cm., in the intercondyloid fossa, 1.5 cm., in the tibia 1.5 cm. Still more exact details are given by König (*Langenbecks Archiv.* i. x.). The epiphyseal line is situated in a child of 11 as follows (from the articular surfaces,) internal condyle of femur 2.4 cm.; external condyle 2.1 cm.; anterior portion of intercondyloid fossa 1.6 cm.; posterior part 1.4 cm.; anterior part tibia, (near tuberosity) 3.8 cm.; posterior part 1.5 cm.; medium inner part 1.5 cm.; external lateral half 1.4 cm.; Each additional year adds one millimeter to the depth of the epiphyseal cartilage. In the present case we shall cut off 2 cm. of the femur and ½ to 1 cm. of

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the tibia, and then if the surfaces are healthy unite them; if local deseased foci are present scoop them out with the gouge rather than remove a larger portion of the epiphyseal cartilage. Should the whole epiphysis, clear to the medullary cavity be diseased we may have to amputate.

The patella, if diseased, is to be removed. If not, shall it be left? From Pénières statistics we learn that saving the patella raises the death rate 30 per cent. and more than doubles the chances for the necessity of a secondary amputation. Hodges calculates that the removal of the patella shortens the after-treatment 30 days. Holmer makes the sensible remark that the patella, if left in its place, makes the internal cavity of the wound irregular, thus making pockets for fluids that should be discharged and besides presents posssible starting points for new caries. Therefore we shall remove the patella in this case.

4. Excision of the thickened capsule is the next step. The whitish, firm or grayish elastic tissue into which the soft parts of the diseased joint are transformed, must be removed. Authors differ as to the advisability of this step. The majority advise the removal of what conveniently can be, and say that particles of indurated tissue left will do no harm but will be absorbed or will participate in the formation of the cicatrix. The minority advise the removal of every particle of the fungous capsule, even the posterior wall to the coats of the popliteal vessels. One author, Prof. Albert of Insbruck* advises the extreme step that we secure the popliteal artery and vein by a loop before dissecting away the adjacent capsular tissue, that no accident to these vessels may necessitate amputation. We shall, in this case, remove as much as possible of the thickened capsular tissue without resorting to the ligation referred to.

5. We next shall drill a hole through the bones on each side and pass in a soft silver wire of 0.5 to 1 millimeters diameter.

6. After loosening the elastic constriction of the arteries above the knee we shall stop hæmorrhage by ligatures with catgut of possible bleeding vessels, elevate the field of operation and wash it out with 2½ to 5 per cent. solution of carbolic acid.

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* *Wiener Med. Presse*, No. 24, 1879. Beiträge zur Operativen Chirurgie.

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7. A drainage tube will be placed between the posterior wall of the capsule and the posterior aspect of the cut osseous surfaces, i.e. the tube is carried along the whole of the posterior line of the united cut surfaces of the epiphyses.

8. We then unite the silver wire sutures so as to procure a uniform and perfect contact of the cut osseous surfaces.

9. The limb is then to be placed in a padded white metal splint, with movable doors at each side of the joint to admit of free application of the antiseptic dressings.

It is a Petits splint modified a little as shown in

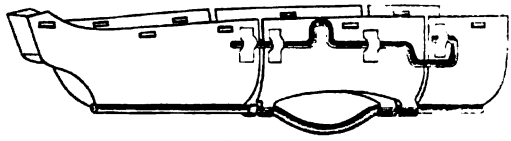

FIG. 1.

The strings from the upper margin of the splint allow of the suspension of the whole limb. The pads consist of carbolized cotton covered by protective or carbolized oil silk.

This mode of bandaging procures immobilization and gives easy access to the wound, without disturbing it, for dressing.

The fenestrated plaster bandages are good for fixing the limb, but do not permit of renewing antiseptic dressing without soiling the bandage.

A plaster dressing cannot be kept clean enough to avoid danger of septic infection of the wound.

Having placed the limb in the padded splint and brought the osseous sufaces in perfect contact we insert another drainage tube along the anterior margin of the osseous union and unite the wound.

First we unite the divided inferior patellar ligament. Next we unite the wound with cat-gut or carbolized silk, leaving only openings for the silver wire and drainage tubes. The ends of the latter we may fasten to the skin by a stitch of silk suture and then cut them off short and obliquely, so as so facilitate the introduction of the point of a syringe for aspirating fluids and washing out with antiseptic solution if necessary.

The operation was made with the aid of Drs. Isham, Lee and

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Jacobson of the Hospital staff, and Drs. Sawyer, Clausen and Murphy of the house staff.*

The mode of operation was as already indicated. There was no purulent fluid in the joint. The capsule was firm, whitish and 8 to 5 millimeters thick, and thickest in the region of the lateral ligaments. The whitish tissue here contained irregular sinuous cavities filled with thick yellow cheesy matter. The cartilaginous surfaces of tibia and condyles of the femur were superficially destroyed, with irregular nodular surfaces in which islands of denuded carious bone were surrounded by fibrous adhesions between the tibia and condyles of the femur. The adhesions were broken by forced flexion. The patella was united with partial anchylosis to the intercondyloid fossa of femur. It was separated by chisel and hammer. The supra patellar bursa was obliterated. It was dissected loose to permit the anterior flap being held away from the condyles. A disc 2 centimeters thick was sawn from the condyles of the femur, leaving healthy cancellated structure.

The tibia was separated at its upper posterior margin from its periosteum, leaving this in connection with the posterior wall of the capsule, and a disk 1½ centimeters thick was removed. In the external half of this cut surface was an island of firm cartilaginous tissue of the epiphyseal cartilage; the cancellous surface was healthy.

On bringing the cut surfaces together the leg was straight, as in the highest degree of extension. As we desire anchylosis in a slight degree of flexion, another and wedge shaped piece was cut from the tibia, when the position was perfect. The patella was removed subperiostially by the gouge. The whitish firm tissue of the capsule was dissected and extirpated. The holes were drilled in the sides of the bones and the silver wires inserted. After removal of the elastic compression one small artery was ligated with catgut, all further bleeding was controlled by the carbolized solution. The posterior drainage tube was inserted and on a suggestion of Dr. Isham was brought out through an opening cut posterior to the hamstring tendons. The bones were brought together and the silver wires twisted; the leg placed in the splint, the anterior drainage tube inserted; the patellar ligament united; the external wound closed with carbolized silk; the

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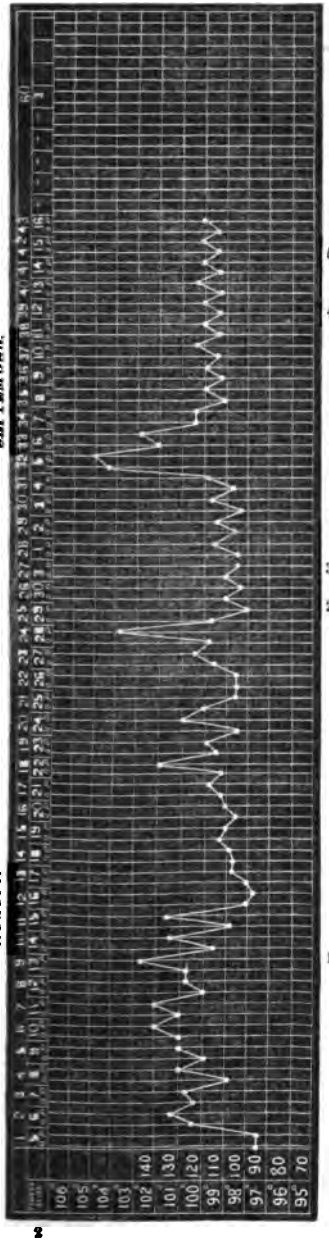
drainage tubes stitched to the skin; the leg lifted out of the splint and a perfect Lister dressing applied; the leg replaced and the knee surrounded with oakum and fixed by a woollen bandage around the splint. The patient was put to bed and the limb suspended to a wooden frame upon the bed at its lower half.


AUGUST.
SEPTEMBER.
5. Incision of abscess on external side of knee.
4. Out of bed on crutches.
3. Incision of small abscess.
2. Solid osseous union. Silver wires removed.
1. Cystitis from the use of a not disinfected catheter.

Microscopical examination of the thickened capsule, hardened in chromic acid solution, revealed miliary tubercules throughout. (See paper in Chicago Medical Journal and Examiner, May, 1880, fig. 4.)

Diagnosis: Miliary tuberculous arthritis of the knee-joint. Sinuses with cheesy matter in each side of the thickened capsule, superficial tuberculous destruction—caries—of the articular

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surfaces of the bones. Anchylosis of the patella, progressive anchylosis and contraction of the joint. Destruction of the internal lateral ligaments and knock-knee.

The after-treatment showed the following courses:

August 6.—Some pain in knee and heel. Cotton placed between tendo Achillis and splint to relieve heel, pain ceased. Ice bag to knee. Morphia hypodermically.

August 7.—Slept two hours last night. No pain. Retention of urine. Catheter. Urine is normal.

August 8.—Catheter twice. Ammoniacal odor of urine, alkaline reaction and some pus and blood by microscope. Dressed the knee. No swelling or redness. Drainage tubes full of clots of blood. Removed by passing soft carbolized bougie through them. Fluid injected comes through, slightly bloody but without pus. (This fluid is equal parts of two and one-half per cent. solution carbolic acid and water that has been boiled.) Dressing nearly painless. To take camphor and opium pills and infusion of triticum repens.

August 9. Slept all night, Passed urine with pain at end of act. Had beef tea and toast.

August 10.—Dressed knee. Hardly any discharge from tubes. Urinary troubles continue. Washed out bladder with solution of boracic acid.

August 11.—Some pain in knee. Urine alkaline.

August 14.—Passed urine three times yesterday. Slept well. Little pain. Appetite fair. Dressed the knee.

August 18.—Dressing renewed again. No pain.

August 20.—Dressed. Upper drainage tube removed.

August 26.—Dressed. By moving limb, some union appears to have taken place between the bone surfaces.

August 28.—Pulse 96, temperature 103¾. No pain; feels well in spite of the fever.

August 29.—Dressed. *Solid osseus union.* Silver wires removed.

August 31.—A small abscess has formed by side of medial end of upper drainage tube. Incision and discharge of half a teaspoonful of thin slimy pus.

September 5, a. m.—Pulse 112, temperature 104° F. Sen-

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sation of cold followed by heat this morning. Thirst. Pain in left side, and dyspnœa. Pain is in region of ninth to twelfth ribs; pressure here painful. Physical examination gives no signs of inflammation of lung or spleen. Bowels not moved for forty-eight hours. Poultice to region of spleen. Quinine and wine and an enema.

September 6, a. m.—Pulse 120, temperature 102° F Pain less. Anorexia. Obstinate vomiting. Carbolic acid, one drop, every two hours. Champagne and ice. P. m.—Pulse 92, temperature 102.5° F. Vomiting stopped. Pain less.

September 7—Pulse 74, temperature 99.5° F. Slept well. Vomited only once. Pain nearly gone. Bowels moved twice yesterday. Feels well except uneasiness in abdomen.

September 8.—No pain or vomiting.

September 12.—*Out of bed on crutches, and with high sole on shoe of sound foot.*

September 15.—A fluctuating swelling on external side knee, round outer side hamstring tendons. Incision and escape of one ounce viscid yellow pus.

September 27.—In and about this abscess and adjoining part of the scar is found soft, bluish-red nodules of granulation tissue surrounding small sinuses that continue to discharge a little slimy purulent fluid, they show no tendency to healing. Patient anæsthetized and sinuses scraped out with sharp spoon, also the wall of the abscess—all under the spray.

October 1.—Wound healing. Patient looks a little pale. Ordered cod liver oil and syrup of iodide of iron.

October 9.—On the inner side of the knee where the drainage tubes and silver wire found exit, are some bluish-red œdematous excrescences of tuberculous granulations secreting a slimy fluid. These are cauterized with nitrate of silver.

October 13.—*Patient walking about all day. Can walk without crutches or cane.* The wound from the scraping out on outer side of the knee, all closed up.

October 17.—The granulations on inner side knee show no signs of healing in spite of repeated cauterizations. Patient anæsthetized and the tuberculous granulations removed by gouge and sharp spoon. A sinus was found leading along up and above

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the scar of the primary wound 3 centimeters. Wall of the sinus scraped out and drainage tube inserted.

October 25.—Opened small abscess at middle of original semilunar incision.

November 1.—The small wound healing rapidly.

November 3.—Opened another small abscess (size of hazelnut) in the interior part of scar. Patient walks about all day without pain.

In January 1880 a similar small abscess formed in the anterior part of the scar.

In February 1880 patient left hospital and began work as cutter in glove factory, being able to be about constantly.

In April a small superficial abscess again formed on the outer side of the knee. It was opened and healed in 8 days.

The present condition is as follows.

FIG. 2.

Solid anchylosis in slightly flexed position. The transverse scar irregular from abscesses, ulcers and their removal. Shortening of the extremity 1½ to 2 inches; from the anterior superior spine of the ilium to the external malleolus, 1½ inches and to the internal malleolus, 2 inches shorter than opposite limb. Perfectly useful limb; can stand on it all day without pain. No trace of tuberculosis apparent in other organs of the body.

A speedy osseous union is the most important point. This

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secured and a final success is almost certain. In our case this occurred in the third week and was complete in twenty-four days. It occurred as rapidly as in uncomplicated fractures frequently. It was a perfect instance of healing by first intention and may be considered rare in its rapidity.

But it is obvious that if we can convert an excised knee-joint into a subcutaneous fracture by antiseptic methods scrupulously carried out and immobilization, we may make a rule of what has been the exception. It might be objected that such rapid healing would not occur in advanced years as in youth, as it is known that the danger of open fractures increases with the age. But Volkmann has shown by one hundred cases of compound comminuted fractures treated antiseptically that such recover as well and rapidly as simple fractures, and regardless of the age of patient. Formerly 20 to 30 per cent. of such cases were lost by suppuration and pyæmia, now none of them provided they are treated antiseptically from the first. In excisions of the knee-joint we have the right to expect as good results under the Lister treatment as in these fractures, even better, as the wounds in the excisions are not for one moment out of the antiseptic atmosphere.

As to danger to the general health from confinement in bed, our patient was out of bed on the 38th day. Twice this length of time would do no injury.

The only accidental complication in the after-treatment was the cystitis, and that was probably due to the use of an undisinfected catheter to draw the urine during the early retention, that is so common after an operation.

There was very little fever early, and some of this may have been due to the cystitis. It was not till after the bony union that some sudden rises in temperature occurred. These were due to the formation of the small acute abscesses. The tuberculous character of the fungous arthritis in our case was the cause of the only troublesome disturbance during the after-treatment, namely, the formation of abscesses, and these were neither dangerous nor serious. The primary incision healed by first intention entirely and nowhere reopened. But about this scar the little abscesses of the size of a hazlenut already described, formed with slimy, clear fluid and slimy, viscid pus. This process is due to excessive for-

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mation of miliary tubercles in œdematous adenoid tissue, thus breaking down in fatty degeneration, making small tuberculous vomicæ, and leaving tuberculous ulcers with little or no tendency to heal. This process is unaccompanied by fever or much local pain. Sometimes about such tuberculous foci are formed small abscesses in the connective tissue.

One such formed in this case along the inner hamstrings and opened on the 31st Aug. Another, on the outer side, opened Sep. 15. Such abscesses cause slight fever as occured here. They may close up speedily and entirely, or partially and leave a small tuberculous cavity. This, as well as the bluish swollen tuberculous, ulcerated or broken down nodules, resist all local treatment. The only effective treatment is entire removal. The wound will heal rapidly and with a permanent scar.

The cause of these secondary multiple but local eruptions of miliary tubercles is obvious. Particles of the thickened fibrous capsule of the joint with their miliary tubercles have been left here and there, and now form starting points for other tubercles in soft, young adenomatous tissue. A careful removal of all the capsule is the only way to prevent these little troubles in the after treatment. This tendency of tubercles to grow in the scar should be a warning to us to remove all traces of such formation from the bone if deeper local foci are found here.

We are inclined to believe that those who hold the removal of all the capsule to be unnecessary have gathered their experience from cases of white swelling or chronic inflammation of the knee-joint with few or no deposits of miliary tubercle.

Tuberculosis of Elbow-joint. Excision by Dr. E. W. Lee, Chicago.

SYNOPSIS.—*Primary osteo-tuberculosis of the head of the radius. Secondary tuberculous fungous arthritis tending to anchylosis. No abscesses or sinuses. Subperiosteal excision. Recovery with joint movable and useful. Almost complete reformation of the removed osseous parts with formation of new joint.*

Mary C. B., aged 8 years. Had whooping cough at four, scarlet fever at seven, and measles a few months later. Recovery

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perfect. No tuberculous history. She is one of nine children; all the rest healthy and none of them ever had scrofulous disease.

At one year of age she fell down stairs—only five or six steps. Three months later her mother noticed she kept the right elbow flexed at an angle of 45 degrees; it was somewhat stiff but not swollen. The arm remained in this condition six years. No pain was experienced and no attempt was made to move the joint. Dr. Lee first saw the child when she was seven years old. Then the joint was stiff, the member was carried in a drooping manner as though it was a useless appendage. There was considerable atrophy of the muscles of the whole limb, but most of the extensors of the forearm. No active motion was possible of the elbow joint; neither flexion and extension nor pronation and supination of the forearm. By forced and very painful passive motion the forearm could be flexed 10 degrees.

The child was anæsthetized and forcible movement of the joint in all directions made, to break up adhesions. The arm was then placed in a flexible splint with rubber bands. Passive motion was now made daily and the child was induced to lift sand-bag weights. In three months she had motion of 25 to 30 degrees. Soon thereafter the joint became swollen and tender and passive motion had to be discontinued. The joint soon became as stiff as at first.

Passive motion was resumed on two occasions later but without benefit. Each attempt was followed by pain and swelling.

Subperiosteal excision was made January 27, 1880, at the patient's home, by Dr. Lee, assisted by Drs. Fenger and Bridge. The patient was etherized and Esmarch's bandage applied. Then, under the spray, a longitudinal incision eight centimeters long was made on the posterior side of the joint, dividing the tendon of the triceps longitudinally. The periosteum was detached by a strong gouge, thus preserving the attachment of the extensor tendons to the periosteal sac of the olecranon.

In the same way the head of the radius and the cubital epiphysis of the humerus were enucleated, leaving their periosteal covering in connection with the overlying soft tissues. In the cavity of the joint were a few drops of slimy, grayish pus. The articular cartilages were destroyed and the bones presented partly

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rough denuded surfaces, partly a soft, reddish-gray covering consisting of fungous granulations.

The olecranon was removed entire, also the head of the radius. Of the lower end of the humerus two centimeters in length was sawed off. The cut surfaces of bone were healthy; one small artery only was ligatured and that with catgut. A drainage tube was inserted the whole length of the wound, which was closed with silk sutures. The Lister dressing was applied and the arm fixed to an angular splint. Examination of the excised bone showed that the head of the radius had lost its cartilaginous covering on the articulating surfaces and presented several small cavities or excavations two to three millimeters deep and the same in diameter. The walls and base of these cavities consisted of white, hard and smooth osseous tissue with no fungous granulations on the surface. The shape of the cavities indicated that probably here a primary osteo-tuberculosis had developed, at first in the spongy portion of the bone. These tuberculous foci had enlarged and finally reached the articular surface, opened into the cavity of the joint and caused the fungous tuberculous arthritis. The osteo-tuberculosis in the head of the radius has come to an end, the cheesy matter and the lining membrane of adenoid tissue and miliary tubercles have disappeared and left a clean cavity with no further tendency to destruction of its walls.

The articular epiphysis of the humerus presented a different stage or form of the disease. Here we find the secondary, superficial, diffuse osteo-tuberculosis or tuberculous caries destroying the bone from the surface. The cartilages were all gone and the articular extremity of the bone was altered in shape and reduced in size. In some places rough, bony surfaces were present, in others irregular layers of reddish-gray fungous granulations covering the bone. The tissue was so friable as to be easily removed from the bone, which presented then a roughened surface. The miscroscope showed these granulations to be adenoid tissue containing spiculæ of bone undergoing absorption and miliary tubercles. The articular surface of the olecranon showed the same morbid conditions as the humerus.

The after-treatment was fortunate. No suppuration occured. The wound healed by first intention. Drainage tubes were re-

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moved in two weeks. Dressings were renewed every two or three days. In three weeks the wound was entirely healed.

After four days, passive motion was commenced with the screw of the splint. After 10 days, passive motion was made at each dressing, the splint being removed.

After four weeks the splint was dispensed with and active motion commenced. Later, to force the child to use the arm, the well arm was tied to the waist and kept beneath the clothing.

She now has a very useful arm with new formed joint—as the members may see by examining the patient. There is 90 degrees of motion without pain, i. e. flexion and extension. She uses the arm for everything, and the whole day long without pain or fatigue.

There is shortening of the whole extremity by about three centimeters—two of which are due to shortening of the humerus.

In examining the new formed joint we easily feel a large new formed olecranon and condyles of the humerus, the external the largest.

Pronation and supination are permitted to about half the normal extent, viz., to 80 and 90 degrees. There is a slightly lessened volume of muscle of the whole extremity, amounting for the arm to three-quarters of an inch in circumference, and for the forearm to one-half inch.

The favorable course and result of the case, absence of fever and suppuration may be due to the antiseptic methods used. The splendid result as to mobility of joint is due of course to the subperiosteal method of operating.

We need hardly say that the older methods with destruction of periosteum are never to be employed where mobility of joint is expected afterward.

Will the good result as to motion of this joint be lasting?

For elbow and shoulder joints we know the results may be good several months after the operation, and later all active motion be lost either from anchylosis due to relapse of the fungous arthritis, or by relaxation of the tendons and ligaments of the new formed joint, the latter producing what may be termed a loose joint.

We hope to show this patient to the society again a year hence when the permanent result of the case may have been reached.

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Tuberculosis of Hip-joint. Excision by Dr. E. W. Lee, of Chicago.

Before relating the history of this case we wish to say that we are unable to exhibit the patient as she is still under treatment.

The case is communicated to illustrate some improvements in bandaging and dressing the patient after this operation, and because the tuberculous character of the disease in this case has brought out a measure of importance in the after-treatment.

SYNOPSIS.—*Tuberculous fungous arthritis, caries, morbus coxarius of right hip-joint of three years standing. Large anterior abscess. Excision subperiosteal by external longitudenal incision; the abscess emptied and scraped out from the incision. Drainage through two openings. Three months later the inclosed abscess again laid open by a large incision and its entire wall of tuberculous tissue scraped out, the abscess closing entirely in eight days thereafter. The leg dressed in Sawyer's modification of Hodgen's splint. The dressings re-applied as often as required by means of Lee's frame for the dressing of excisions of the hip-joint.*

Sarah Jane B., aged 9½ years. No consumption, cancer or hip disease in family. The father's parents both living. Mother's father died in her infancy of some disease unknown; her mother living. The patient is one of a family of ten children, of which five are living and healthy; one died of cramps, one of teething, one of diphtheria and one was still-born. No scrofula or skin disease has occured to any of the family. She had whooping cough and varicella at five years of age and measles at seven.

The hip disease began Feb. 1877. Eight months previously she had slipped down a short flight of stairs (3 or 4) but complained of no pain afterward, and was not lame for six months. Then symptoms began. She was taken to Dr. Gunn who recognized the hip disease and put her under treatment in St. Luke's Hospital and afterward at home. The treatment was by splints and extension by weight and pully and was continued two months.

She improved, could walk and run and jump without appearance of lameness.

In the winter of 1878-9 she fell from a chair upon her back upon the floor. She appeared only slightly hurt but rapidly grew lame. Six months later she was so bad she was obliged to use

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crutches. Early in December 1879, the mother noticed a hard swelling anterior to the diseased joint. She consulted Dr. Lee who pronounced it an abscess originating from a carious hip-joint and advised excision.

Operation by Dr. Lee was performed December 24, '79 with the assistance of Drs. Fenger, Isham, Clarke, Bridge and McLennan. At the time of operation the child was poorly nourished, and had hectic. The thoracic and abdominal organs were normal. The right lower limb was shortened 1½ inches, adducted and flexed. Active movements of the hip-joint were impossible on account of pain. Under the influence of ether, limited motion was possible, but no distinct crepitus was produced. A large fluctuating abscess was felt reaching from the anterior superior spine of the ilium down to the upper third of the femur anteriorly.

Under the carbolic spray a longitudinal incision was made from a point five centimeters above, down along the outside of the trochanter major five cms. The periosteum was detached from the bone, the capsule opened and the head dislocated from the acitabulum. As the head of the bone was atropied from superficial caries and the neck presented a tuberculous cavity (as described in a previous paper where it is shown that the cavity reached down to the lesser trochanter), the upper extremity of the femur was removed just below the lesser trochanter. The cut surface of the femur was here healthy. The acetabulum presented several roughened surfaces, partly covered with tuberculous granulations. These were gouged out until firm osseous substance was met with. The anterior abscess was opened through the wound and its wall scraped off and the membrane removed in pieces. A counter opening was then made at the lower extremity of the abscess and a drainage tube inserted through its whole length and fastened with sutures.

The acetabulum was washed out with a 2½ per cent. solution of carbolic acid, and two drainage tubes inserted and fixed to the respective ends of the incision with sutures when the wound was closed with silk sutures.

A perfect Lister dressing was applied, over which was placed a layer of carbolized oakum, and the patient was placed into Sawyer's splint.

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This new and splendid apparatus for dressing excised hip-joints, combining extension and suspension of the operated extremity, was first applied in the summer of 1879 in Cook County Hospital, Chicago, on a patient operated upon by Dr. Fenger.

We here present drawings of the instrument and the written description of the apparatus, prepared by Dr. Sawyer himself.

The splint was a modification, or rather an extension of the well known Hodgens' anterior splint, employed in fractures of the femur, etc. The outlining framework was constructed of five-eighths inch iron, while the cross-bars arching over the limb and body, as hereafter described, were of three-eighths inch iron.

The five-eighths iron bar constituting the main framework of the splint, commenced at the lower border of the axillary space on the side of the affected limb and was extended downwards to a point six inches below the foot, being moulded so as to correspond, with approximate accuracy, to the outline of the body. Below the foot the bar made a square turn, extending horizontally inward about four inches; thence turning squarely again and running up the inner aspect of the affected limb to the groin. From this point it arched across the opposite groin in an oblique direction corresponding with the inguinal fold and at the anterior superior spinous process of the opposite ilium, took another and final turn, ascending along the opposite side of the body to its termination at the lower border of the axillary space. Arching across the limb and body, and connecting the two branches or "legs" of this framework, were five cross pieces at the following points: first, at the upper extremity of the splint; second, extending obliquely from a point six inches below the upper extremity on the affected side to the angle of the splint corresponding to the anterior superior spinous process of the opposite side; third, at a point corresponding to the inner and lower extremity of the fixed arch across the opposite groin; fourth, at the lower third of the thigh; and fifth, at the lower third of the leg. Of these arches all but the third terminated on either side in a hook for the purpose of suspending the apparatus. There was a slight bend in the splint corresponding to the knee-joint, so as to allow of limited flexion, and another at the upper end of the femur, where it was bent upward at an angle of perhaps 20°.

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This apparatus was applied after the manner of a Hodgens splint. Adhesive straps were applied to the limb as high up as the lower third of the thigh, being secured to the limb by a roller. These straps were attached at their lower extremities to a "stirrup block," which was in turn fixed to the lower end of the splint by means of a short piece of elastic tubing.

The limb and body were supported by broad strips of muslin passing underneath and secured by pins on either side to the framework of the splint.

The apparatus was suspended by two sets of cords as follows: 1. Four being converged from the four lower hooks already mentioned to a point some distance above the limb, were attached to a line dropped from a pully in the ceiling a little below the foot of the bed, the degree of obliquity in the direction of this line varying with the amount of extension desired. 2. Four cords converging from the four upper hooks to a point a few inches above the body, were attached to a line dropped directly downward from the ceiling, a set of compound pulleys intervening for convenience in elevating the body. For convenience in dressing the limb, a block was removed from the mattress corresponding to the location of the wound. This could be replaced when not dressing.

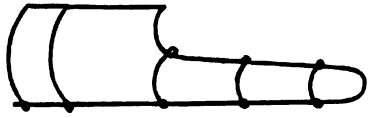

FIG. 3 shows the iron frame of Sawyer's splint.

Dr. Sawyer's splint proved in this first case—a boy of seventeen years of age—a most excellent and convenient help in the after-treatment. When the dressing was renewed the patient hoisted himself with the upper system of pulleys, an assistant raising the limb by the lower set of pulleys, the straps covering the wound were removed after drawing the block in the mattress and the wound easily gotten at.

An important point in the after-treatment, if we would carry out all the details of the antiseptic method, is this: We must be in no hurry, but must have ample time to cleanse every part of the wound, wash out the tubes, etc., without fear of tiring the

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FIG. 4 shows the splint applied on the excised hip.

patient or causing him to get nervous or suffer pain. Therefore it is necessary to have the whole body of the patient easily suspended and high enough to enable the surgeon to get free access

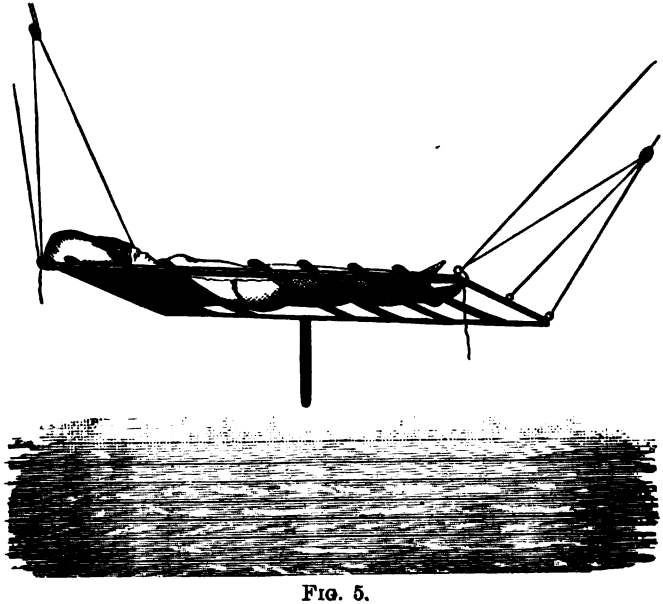

FIG. 5.

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to the wound from below, to operate the atomizer and to change the bed clothes. To accomplish this, Dr. Lee devised a movable suspension frame with straps, to support the patient during the shifting of the dressing.

Fig. 5 shows Lee's frame for dressing of excisions of hip-joint. It consists of a wooden frame six feet long, two and a half feet wide, with cross straps four inches wide and four inches apart. Each corner has a strong iron hook for attaching a suspension rope.

The center of each of the end pieces bears another hook for fixing the end of the rope after the apparatus is hoisted.

The mode of operating is as follows: The patient is first hoisted in Sawyer's splint five to ten inches above the bed. Lee's frame is placed on the bed beneath, when the patient is lowered upon it. The ropes are then adjusted to the frame and this is raised up two feet, bearing patient, Sawyer's splint and all, and fixed in this position. The patient has a pillow under his head and is perfectly comfortable.

The bed is then taken away. The straps in Sawyer's splint covering the Lister dressing are unbuttoned and removed. Next the straps in Lee's frame covering the wound are removed. The antiseptic dressing is then accessible, is easily removed and the wound cleansed, under the spray. The bed is refreshed and the new antiseptic dressing in all its layers is prepared and laid upon the bed in the proper place, when the bed is brought under the patient and he is let down upon the dressing, the application of which is completed by bringing around the body the ends of the many-tailed bandage that holds the dressing firmly to the part.

The straps of the splint are readjusted and the patient hoisted by this away from the wood frame which is now removed, and the patient is again lowered on the bed and the dressing is finished.

The description of this dressing and the apparatus may make it appear complicated and unpractical. But if you could see the dressing made upon these little patients and see them, as we often have seen them, laugh, chatter and make fun during the whole of the tedious performance, which otherwise must be tiresome and painful, you would not entertain such an opinion of it.

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The splints and dressing hitherto in use for the after-treatment of excisions of the hip-joint can none of them be used when a perfect Lister dressing is to be made, without the greatest inconvenience. The plaster of Paris bandages of the Germans, although they may be combined with both extension and suspension are not strong enough when sufficiently large fenestræ are cut for changing the dressings and they cannot be kept clean and their renewal is attended with great inconvenience and discomfort to the patient. The best apparatus hitherto used is, in our opinion, Sayre's wire apparatus or splints. (Sayre's Orthopedic Surgery and Diseases of Joints, N. Y., 1879.) This combines immobilization and extension. It does not permit as free access to the wonnd for the application of the Lister dressing as our own apparatus, neither can it be kept as clean; furthermore it is much more expensive.

Volkmann, in a valuable monograph in 1873 (Die Resectionen der Gelenke, Sammlung Klinischer Vorträge, N. 51, 1873, p. 306), made the following remarks: "I do not deny that the invention of a, so to speak, mobile, immovable apparatus for dressing excised hip-joints, whereby cleansing the wound, defecation, etc., can be accomplished without moving the patient, would be a great advantage."

The apparatus already described,

1. Permits defecation, dressing the wound, changing the bed clothes, etc., without moving the patient; it lifts the patient without moving him.
2. It can easily be kept perfectly clean.
3. It is inexpensive.

We regard it as a step toward the accomplishment of the desideratum of Volkmann.

COURSE OF THE AFTER-TREATMENT.

December	25,	Pulse 140	temperature	$102\frac{1}{5}$ Fahrenheit.
"	26,	" 136	"	$102\frac{2}{5}$
"	27,	" 138	"	103
"	28,	" 130	"	$102\frac{3}{5}$
"	29,		"	101
"	30,		"	101

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December 31, Temperature 101.

January 1, Temperature 101.

January 3, Temperature 103.

January 4.—On making the dressing the inferior opening into the abscess is completely plugged by a mass of tissue. On pulling it out it was found to be as large as a hen's egg and consisted of tuberculo-adenoid tissue of the membrane lining the abscess.

January 5.—The temperature had fallen to 102.

Thereafter the temperature steadily fell, and the case progressed favorably.

In 2½ months the hip had become so firm that the child could be moved in any way without pain. The Sawyer's splint was then dispensed with and ordinary extension by weight and pulleys substituted.

Three weeks later the child had an attack of facial erysipelas —the patient lived in a deep basement, and something of an epidemic of erisipelas was then going on. Only the head, neck and shoulders were involved, and the attack lasted two weeks.

The erysypelas had no effect on the wound. During its course however the precaution was taken to dress the case oftener,—viz., every two instead of every four days.

After convalescence from the erysipelas was established, the granulation tissue in the lower opening of the abscess broke down and the discharge increased in quantity and continued in spite of antiseptic precautions. As the granulation tissue of the now almost closed excision wound showed symptoms of breaking down, it was deemed advisable to extirpate the walls of the abscess.

This operation was made March 30 under anæsthesia. The abscess was freely laid open and was found to communicate by a sinus with the excision wound. This sinus extended to a denuded osseous surface above the upper posterior border of the acetabulum on the iliac bone. The upper end of the femur and the acetabulum were united and surrounded by a firm connective tissue mass in which no sinuses or traces of inflammation could be found.

The abscess was lined with a grayish soft, friable but adherent membrane, one to three millimeters in thickness, with smooth surface and without visible miliary tubercles. This mass was entirely scraped off down to healthy fibrous and muscular tissue. The

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denuded osseous surface was also scraped out. The hæmorrhage was insignificant. Two drainage tubes were inserted, one along the whole length of the abscess, the other reaching to the denuded bone and being brought out through the old excision opening. Microscopical examination showed the excised membrane to consist of adenoid tissue and thousands of miliary tubercles.

On April 1st the Lister dressing was reapplied and no pus flowed from the abscess.

April 3.—Some pus came out the upper posterior drainage tube. In one week the tube was removed from the abscess, and in three days the sinus left by the tube had closed.

Two days later the second tube was removed and now a little sinus is left leading to the denuded bone.

The second point to which we wish to call special attention in the treatment of this case is the careful removal of the tuberculous lining of the abscess.

As Volkmann has advised, these abscesses should be laid open throughout their whole length. If in our case this had been done at the first operation probably its repetition would not have been called for. We feared at first to make this thorough operation on account of the large external wound it required, and so our first scraping out was not effectual.

As experience has shown that the external wound independently of its size, as well as the wall of the abscess, closes by first intention when the tuberculous matter is all removed and the operation is done antisiptically, we need not fear to make free and large incisions.

Such an operation as this is the only means we have of closing tuberculous abscesses and of saving our patients from the dangers incident to exhausting suppuration and in time amyloid degeneration of kidneys, spleen and liver, and from general tuberculous infection.

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ARTICLE III.

HYSTERIA. By J. A. GOLDSBERRY, M. D. Read before the Parke County, Ind., Medical Society.

Hysteria is a malady whose origin doubtless antedates by many hundred years, the first case of which history or science furnishes any record; indeed I believe it to be coeval with the human race, and therefore if I would seek for the individual in whom hysterical phenomena first had a beginning, I would go back to "the mother of all living," to the person of Eve herself; for I doubt not that in that memorable period in her history when "she heard the voice of the Lord God walking in the garden," standing in His immediate presence she made that sad confession,—"the serpent beguiled me and I did eat," and this ackowledgment immediately followed by the Divine anathema, "I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children, and thy desire shall be to thy husband, and he shall rule over thee." While these events were transpiring, or, it may be, very soon thereafter, I repeat, I doubt not, amid circumstances, which, to her, must have been thrillingly exciting—that Eve's emotional nature was profoundly impressed, so much so, that for aught we know, for the first time in her life, she betrayed one of the weaknesses of her sex, and exhibited in her own case, perhaps in a striking manner, many of the spmptoms characteristic of the disease under consideration. Is the hypothesis unreasonable? if so, why? She had been guilty of a grievous sin, for which she had incurred the Divine displeasure: not only so, but because of her act of disobedience she had entailed upon herself and all who were to come after her, the consequences of that sin, which were disease and death: a fact of which she had full knowledge. She now possessed, to their fullest extent, all of the frailties of weak human nature: she was subject to disease and the aches and pains connected therewith, both physical and mental, and was already, doubtless, in bitter grief, remorse and humiliation, reaping the fruit of her own sowing. Indeed it is difficult to conceive of circumstances, which, in their nature, were better calculated to develop the

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manifestations peculiar to this affection, than those surrounding this Bible character at the particular time of which we speak. The necessary factors were all present. I am forced, therefore, to the conclusion that our maternal first-parent may have been the victim of hysteria. But lest I be considered a little speculative I will address myself to a consideration of the disease of more recent date—of to day, and with your indulgence, endeavor to adduce a few thoughts relating to this singular ailment. Hysteria is a disease peculiar to females. Why this should be so, is a problem, which, I think, will not admit of very clear solution. The doctrine of some of the early fathers in medicine regarding this affection was crude and ludicrous. They located the disorder in the uterus, and attributed many of the morbid phenomena to the "wanderings" of that organ from one part of the body to another. The muscular movements, in whatever parts these might be, the *globus hystericus*, were all due to the immediate presence of the womb. Another belief was, I think a much more rational one, that the disease originated in the brain itself. Hence we read of "cerebral hysteria," as we do also of "uterine hysteria." Since the days of Hippocrates, hysteria has been a constant source of vexation, and not a little mortification to the medical world; not because of its danger and fatality, for unfortunately, if you will pardon the expression, for many of those who are its victims, it never destroys life; I repeat that it is not because of its danger to life that the profession fear an encounter with it—that the medical man approaches a case of the disease with so much reluctance—but by reason of the generally acknowledged fact, that science with all of her many grand and brilliant achievements in the field of medicine, tells us, as yet, but little of the nature and pathology of this very common affection. That hysteria is a species of the neuroses; that it is primarily a disease of the cerebro-spinal center; that somewhere within that wonderfully complex system, the germ is to be found from which spring the varying and varied manifestations which characterize the disorder, is a conclusion, I think, to which we must all come at last. In a disease whose occurence is so frequent, and with whose symptoms the gentlemen before me are doubtless more conversant than myself, it would seem unnecessary that I consume your time in dwell-

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ing upon its clinical history, but as a paper of this character could not be considered complete without making some reference to that division of the subject, with your permission I will speak briefly in a rather general way, of some of the more prominent symptoms, after which I will submit a report of two or three cases which came under my personal knowledge and management; will also in conclusion make brief mention of the pathology, etiology and treatment of the disease. In this, as in all other ills to which flesh is heir, the morbid manifestations vary greatly in different individuals, and in no other ailment, perhaps, more so than in the one in question. The abnormal disturbances in one case may present scarcely a single feature in common with those of another. Not unfrequently the only observable symptom of illness is a loss of voice, coming on suddenly, and lasting, it may be, for months, the power to speak, without any apparent cause, returning as suddenly as it was lost and the case is well.

Again, there is exaggerated emotional disturbance affecting mental action in various ways; the patient may be laboring under a simple depression of spirits, or she may have a violent fit of weeping, or she may cry and laugh alternately. In another case the morbid manifestations are violent in the extreme, the patient screams at the top of her voice, sheds tears profusely, becomes very voluble when she is suddenly seized with convulsive movements, which may be local or general. In another class of cases the only departure from the normal state consists in some impairment of motility, which differs greatly in different cases, as to its completeness, character, and extent. In one we may have paralysis in the form of paraplegia, in another hemiplegia; or the part affected may be one or both hands, or even a single finger. There may be paralysis of some particular group of muscles, or what is more singular, a single muscle. We have recorded examples of the latter in the levator palpebræ superioris, and in one of the recti of the eye ball.

The laryngeal muscles are sometimes involved, or œsophageal, giving rise, when in the former, to loss of voice or aphonia, which may be complete or incomplete, when in the latter, difficult and imperfect deglutition. Or the paralysis may be, apparently, general, affecting every voluntary muscle in the body. Again, there

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may be muscular spasms, involving, as in paralysis, a single muscle, or a particular set of muscles. The spasms are more frequently clonic in their character, but may be tonic, and when the latter, may last an indefinite period. The functions of the internal organs are always more or less impaired, thoracic and abdominal, but more uniformly the latter; the disturbances may be of the character of gastralgia or enteralgia, indigestion or obstinate constipation; pain of a neuralgic character in the uterus, ovaries, or bladder. When in the latter situation, the disorder is likely to be rebellious to all methods of treatment and exceedingly protracted, as I can testify from personal knowledge obtained from a long siege of perplexing experience in the management of a case thus affected. In still another class of cases the disease is characterized by deranged sensibility. This may be greatly exaggerated, constituting *hyperæsthesia*, or there may be a loss of sensation, resulting in complete *anæsthesia*. The different organs or parts of the body which may be involved in this morbid condition, of course, vary with different individuals. In one we may have hyperæsthesia of the integument, local or otherwise; in another it is confined to the muscles, and when the latter, more frequently those of the abdominal and thoracic regions than elsewhere.

Headache is a very common trouble, and among all the aches and pains and the almost innumerable morbid manifestations which characterize hysteria, no single one of them, I have thought, was more uniformly and constantly present than this one. Some one or more of the joints may be affected, simulating articular rheumatism. The internal organs are all more or less likewise involved; indeed, there does not seem to be any part of the body, internal or external, which is exempt from the impress of this particular form of hysteria. Loss of sensibility, or anæsthesia, though not so frequent in occerrence as the condition just alluded to, is, in a case now and then, a prominent symptom. While any part of the body may become anæsthetic, the skin is usually the seat of the disorder. A distinguished writer* on nervous pathology says: "In the days of witchcraft many an hysteri-

* Wm. A. Hammond.

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cal woman, with anæsthetic spots on her skin, went to the gallows or the stake on suspicion of being leagued with the devil. The belief was that whenever the hand of the arch fiend or his assistants touched the skin, the spot at once lost its sensibility." It is not expected that in any given case of hysteria there must be present any great number of the almost innumerable list of symptoms which belong to the disorder. On the contrary, there are individuals laboring under the disease who present no other morbid manifestation, perhaps, than an obstinate headache or paroxysmal gastralgia, or cutaneous hyperæsthesia, or anæsthesia, it may be a tonic spasm, with contraction of a finger; yet these cases are none the less hysterical than are those in whom the symptoms are numerous, well marked, and highly characteristic. In both the former and latter all of the morbid phenomena depend upon the same primary cause, all have a common origin, and all possess a common nature. Following is the clinical history of three cases, the first of which, for obvious reasons, I give somewhat at length. I was called on the morning of Aug. 9, 1874, to visit Miss D., whom I found, as she remarked, "feeling badly." She was a young lady of intelligence and culture, of sanguine temperament, rather full habit, and twenty years of age. She usually enjoyed fair health, but now and then, was subject to attacks of what seemed to be neuralgia of the stomach, for the relief of which I had frequently given her professional attention. She was lively and vivacious in disposition, with a nature in which the emotional element was largely predominant; was a professor of religion, and the purity of her life was questioned by none. She was the daughter of wealthy parents, her home was one of peace and plenty, and she was surrounded with everything, it would seem, calculated to make life comfortable and happy. On making inquiry as to what she meant by the expression "feeling badly," she replied that while she was not particularly sick and was comparatively free from pain, there was a terrible, indescribable sensation in the region of the stomach, of which she must be relieved without delay, otherwise she should certainly die. A careful examination of the case lead me to believe that my patient's conclusions as to her real condition were not well founded. Save a slight indigestion, with constipated

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bowels, there was, apparently, no cause for what she insisted was a serious attack of illness; certainly there was nothing in her physical condition calculated to excite, in my own mind, the least anxiety. There was, however, a morbid mental state, evinced by gloomy forebodings and a marked depression of spirits. On the second day I found her very much the same; she had not slept well through the night; was rather less dejected, however, was more talkative and would occasionally smile; still complained very much at the epigastrium.

From a cathartic given on the first day her bowels had been freely moved; would take her meals regularly but had no relish for food. On the morning of the third day the true nature of the disorder was more fully defined; there was now, from the slightest pressure, apparently, great pain in the epigastric region. She complained of a feeling of fullness or choking sensation in the throat, the mammary glands were highly sensitive, as was also the integument covering the face. The muscles of the eyelids were more or less convulsed. She was at times very talkative; would weep and shed tears profusely one moment, as one laboring under some deep mental anguish, and the next she would break forth in hearty laughter. She had no inclination to sit up even for a single moment. She was sensitive to any sudden noise, and seemed to desire the seclusion of a darkened room. On the evening of the same day I was called in great haste, found the family in the utmost confusion and alarm. A little while before, the patient, while engaged in quiet conversation with the mother, was suddenly seized with a violent convulsion.

When I reached her bed-side she was in the midst of a second paroxysm. The whole body was in a frightful state of agitation, and, contrary to the rule in such cases, the muscles of not only the trunk and extremities, but those of the face also, seemed to be involved in the convulsive movements. Her body was jerked and thrown in many different shapes, flouncing from one side of the bed to the other, sometimes assuming a position which was amusing if not ludicrous. An attempt to restrain her would apparently intensify the violence of the paroxysm; if a hand was being held she would free it if possible and immediately afterwards, would not infrequently, seize hold of her hair and pull

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with such force and persistency as to almost completely double the body. Occasionally there would be movements not unlike those observed in chorea. One leg would be drawn up with great rapidity and force, and again quickly extended, followed immediately by a like movement in the other leg. Spasm of the pharyngeal muscles was a very prominent, and, to the patient, certainly a very distressing symptom. She would frequently grasp the throat with one or both hands as if there was something there that was choking her to death, and would frequently not release her hold until the spasm had relaxed, when her hands would drop and she would utter a low, plaintive peculiar wail which was anything but pleasant to the ears of the bystanders. There was hyperæsthesia, apparently, over the entire body; the slightest touch of the surface, accidental or otherwise, was immediately followed by a sharp cry or sudden movement of the body, indicating a degree of exaggerated sensibility very unusual. The eyes, while exhibiting the phenomena so common in this affection, were more profoundly affected than in any case I had ever witnessed; the entire orbital group of muscles of either side seemed greatly agitated, so much so that the eyeballs were in constant and rapid movement, dancing and jumping about in a very strange and excited matter, to which, when added the clonic spasms of the eyelids, with incessant nictitation or winking, together with more or less contortion of the facial muscles and a rather demoralized condition of her toilette, and there was presented in the physiognomy of this otherwise sensitive and refined female a not very agreeable or pleasing aspect. Strangely enough, during all of this violent perturbation there was very little disturbance of the circulation, the pulse maintaining throughout very nearly its normal character, a fact however which obtains in many similar cases of this disease. While volition was seriously impaired, it was by no means altogether lost, as there were unmistakable evidences of partial consciousness. This fact was plainly observed during the paroxysm, as two or three times while in the height of the spasm, she would have fallen from the bed had she not, to avoid the mishap, voluntarily changed the position of the body, a circumstance showing that the muscular movements were not wholly automatic. The par-

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oxysm lasted half an hour or more, and the patient signalized the closing finale by a copious discharge of urine which pretty thoroughly saturated her own linen and the bedding as well. Soon afterwards she fell into a tranquil sleep which continued a couple of hours, when, on waking there were again strong convulsive symptoms, which were soon controlled by an anæsthetic.

During the greater part of the fourth day she was free from convulsive attacks, refused to take food or medicine, was easily excited, would now and then weep in a rather quiet way, was not inclined to talk and seemed exceedingly sad and dejected. Late in the evening of the same day she had two paroxysms; these were not so protracted and were less severe than the one of the preceding evening, but as regards the morbid manifestations, did not differ materially. On the fifth day her condition was worse. She had not rested well through the night. In the morning she had two or three light paroxysms and the mental faculties were greatly excited. She would talk, laugh and cry, alternately, and made use of many expressions that were very foolish and absurd. She still refused to take medicine, and could not be prevailed on to taste food. She would occasionally drink a little water, but seemed to swallow with the utmost difficulty. On the sixth day she was no better; while there were no convulsive seizures, mental action was greatly disordered. The faculty or power of perception seemed to be almost completely abolished. Her mind was therefore rich in illusions and hallucinations. Her mother's voice, in an adjoining room, she insisted was that of an individual whom she had never met but once. The familiar bark of a harmless old dog was mistaken for that of a wild animal that she had never seen or heard. Noise produced by the slamming or sudden closing of a door was taken for the report of a pistol, and many of the sounds in and about the house which salute the ears a dozen times a day she attributed to causes altogether foreign to those producing them. She would declare, with great vehemence, that there were persons standing before her who, at the time, were many miles away. Again, she would see a certain savage animal, the size, shape and color of which she described with singular accuracy. She heard sounds of many kinds and of almost every quality and character, when all about the house, save her-

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self. was as silent as the grave. On the seventh day she was very much the same. She was still busy in looking at imaginary objects, in listening at imaginary sounds and in smelling imaginary odors. She was induced to take a little food, also a dose or two of medicine On the eighth day she seemed better. Under the influence of chloral hydrate she slept during most of the night. She was calm and quiet, and the almost innumerable illusions, which for three days and nights had been holding high carnival with the mental forces, had all disappeared. She would take food when requested, but had no relish for it. She complained of headache, confined to the supra-orbital and frontal regions, also a slight gastric disturbance. Sensibility, cutaneous and muscular, appeared to be very nearly normal. She was not inclined to converse much, but when induced to talk she did so intelligently. While, as just observed, she was apparently better, there was an air of gloom and sadness in her general demeanor, which, I was fearful, might be the precursor of another outbreak, or if it were possible, some new development in the case. The sequel proved that my suspicions were well founded. On the morning of the ninth day I received a very pressing summons to visit my patient without delay. On repairing to the house I found, sure enough that the drama presented a new character. Early in the morning, soon after a violent fit of weeping, she passed into a deep sleep, from which it had been impossible to arouse her. Up to this date, as strange as it may appear, the family, particularly the mother, seemed wholly in the dark as to the nature of her illness, and hence had experienced no little unnecessary alarm and anxiety. Her mother was at the bedside crying bitterly, in the belief that her daughter was dying with, as she termed it, "brain fever." On carefully examining the case, it at once became evident, to my mind at least, that I now had before me a genuine case of *hysterical coma*. I assured the mother in a very positive manner, that she was greatly mistaken in her conclusions; that her daughter was not dying and was not likely to die very soon; that the disease under which she was laboring was void of danger and that her ultimate recovery was a matter of almost absolute certainty. But she was incredible, continued disconsolate and expressed great surprise that I should

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thus try to deceive her. The patient lay in the supine position with the legs extended, and so far as I could discover, there was not the least movement of any part of the body. To look at her, she appeared like one in a natural sleep. Her eyes and mouth were closed and the respirations were normal, except that they were remarkably quiet and easy. The pulse, though rather feeble, did not exceed 80 beats in the minute. A strong effort to arouse her, during which I resorted to various and many expedients, failed most utterly; the coma seemed genuine and complete, and after all, it was not surprising that the friends looked upon the new development as one of serious import. On the tenth day she was no better; in some respects she appeared worse. She was still sleeping profoundly, and had not moved her body, so far as noticed, for a period of thirty-six hours. Sensibility, both special and general, was apparently abolished. The integument was pricked and pinched, the vapor of ammonia was applied to the nostrils, loud and startling sounds were made near the ears, the eyelids were raised and the conjunctiva manipulated in such a way as would ordinarily have caused the severest pain, but amid all of this torture she lay as one dead; there was not observed the movement of a muscle. The eyelids were constantly closed, and on separating them they would gradually resume their former position; the pupils were a little contracted, and responded slowly to a bright light. The pulse, temperature and respiration were normal. The mouth was easily opened, but there was no effort at deglutition, as fluids introduced into the mouth were allowed to remain or flow out. There was not the slightest rigidity of the cervical or dorsal muscles, nor of the extremities. Indeed, the voluntary system of muscles, as regards sensation and motility, was practically so much dead matter, whose connection with the cerebro-spinal center had ceased to exist. The abdomen was tympanitic, a condition which had not been observed before. The bowels were constipated and were moved with difficulty; nor had she urinated for forty-eight hours. As the bladder was very much distended, I decided to use the catheter, which was done without the least resistance on her part, and apparently without her knowledge.

This case had now been on my hands for a period of ten days

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and such had been the anxiety and consequent importunity of her friends, that I was almost *forced* to spend a good part of my time at her bedside. The medical treatment thus far had been without any beneficial results: indeed her condition seemed less hopeful than at any time previous. While, it is true, the case has been, in many respects, an unusual one, at least as regards her persistent refusal to take almost everything that was offered her, dietetic and medicinal, thus seriously embarassing all efforts in that direction, it occured to me, for reasons which are entirely satisfactory to myself, that if she was cured in any reasonable length of time, the institution of a radical change in the method of treatment would become necessary. To this end, as an initiatory step, on the evening of this day I applied to the epigastrium a large blistering plaster. This procedure met with the ready concurrence of the family. As has been already observed, the patient had had occasional attacks of gastralgia, which, her mother thought, might be a factor for evil in the present attack of illness.

Before leaving the room, speaking so that all present might fully understand me, I stated most positively that my main object in blistering was to arouse the patient, that I would return early the following morning and if the desired result had not been secured, I should then blister the back of the neck, the temples and perhaps the whole length of the spinal column. I had entrusted to the confidence of a friend, a lady of intelligence and prudence, the programme decided upon, with my reasons therefor, and requested that she remain with the patient through the night, which she consented to do. I gave her full instructions as to the management of and the nature of the intelligence she should convey to the patient, should she awake before my return the next morning. About five o'clock the following morning, for the first time in forty-eight hours, she was noticed to move the body slightly; this was directly followed by her drawing up one leg, then the other; soon after which she rolled slowly over on the right side. Presently she opened her eyes, looked about the room, and, on being asked how she felt, replied that she was very tired. While she was inclined to be somewhat melancholy, she was evidently free from any mental aberration. She ate some with relish and soon expressed a desire for more. My

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friend above alluded to, regarding this as a favorable opportunity, choosing a time when no one was present, delivered to the patient the message, the substance of which was that for more than a week she had been a source, to her parents, of a great deal of unnecessary trouble and alarm, from the belief on their part that she was seriously ill; that her case was simply one of pure hysteria, and consequently, as she herself was aware, quite void of danger. That it was a disease, which, in a great measure, was under the control of the will. Her case was therefore virtually in her own hands; if she chose to exercise a little self-control and will-power, her cure would be sure and speedy, otherwise she would lie there indefinitely. When she was informed that this information was given to her by my authority and request, she manifested great surprise that I should treat her in such a way, and declared that my action was not only ungentlemanly, but unpardonable; presently she began crying and seemed much affected, insisting that I was bitterly cruel and unjust. In a few minutes she ceased her crying, became apparently indignant, rose up, called for her clothing, dressed herself and fairly sprang from the bed, remarking, if she was not sick there was no use in her lying there any longer. The following day she was out driving, *cured*. So much for a little moral therapeutics. So far as could be ascertained, the only cause of the attack in this young lady, the history of whose case I have imperfectly given, was disappointment in a love affair. She subsequently married, has since borne two or three children, and, I think, has had no return of the hysteria.

CASE II. This case was that of a married lady, aged 25 and the wife of a farmer. About four months subsequent to her first confinement she was taken, during the night, with an oppression, as she expressed it, in the region of the stomach; this was soon followed by a feeling of fullness of the throat, characterized by more or less dyspnœa. I saw her the following morning in connection with my friend Dr. Ira Gillum. She complained of a sense of fullness at the epigastrium and upper bowels. There was evidently a highly flatulent condition of the stomach, evidenced by frequent gaseous eructations. She had pain in the top of the head, also in the supra-orbital region. There were no evidences

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of any uterine trouble save a slight degree of retro-flexion. There were no convulsive attacks, nor had there been any, but there was some mental aberration, characterized mainly by the morbid interest she manifested in her own case and the many absurd reasons she gave for the development of this or that symptom. She claimed not to sleep well, and, when asleep, was annoyed with all kinds of unpleasant and frightful dreams. Her pulse was normal, appetite fair, bowels inclined to constipation. She remained very much in the condition above described, now a little better, then worse, for three months, when she suddenly became paraplegic. She attributed her inability to walk to prolapsus uteri. When informed that she was mistaken, that there was no prolapsus, she declared that the womb had escaped from the vagina and was plainly visible. No amount of persuasion could induce her to make the least attempt to walk unaided. The paralysis did not involve the sensory nerves nor was motion entirely lost, as, with help she would now and then walk a little, but in doing so her feet were scarcely lifted from the floor, her steps being made by a dragging or sliding movement. She would sit in a chair for hours, but would always have to be carried to it, and while sitting up would not unfrequently employ her time in reading, needle work, etc. Her appetite was good and she indulged it to the fullest extent, and save an irregularity of the bowels, due, doubtless, to a want of exercise, she was in excellent general health.

About four weeks subsequent to the attack of paraphlegia, she was suddenly seized with a desire to visit a neighbor's one-half mile distant. Her paralysis disappeared as if by magic, and she made the round trip unaided and with comparatively little fatigue to herself, but she had hardly reached her home when the paraplegia returned. Four more weeks elapsed, during all of which time, she refused to walk, insisting, when interrogated in regard to her condition, with apparent earnestness and candor, that the source of the whole trouble was the prolapsed uterus. Wearied and vexed beyond endurance, I concluded that I would try the experiment of becoming a convert to the opinion of my patient as to the cause of her helpless condition. This was a happy thought and delighted her beyond measure. I assured her that

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the difficulty could be relieved, and explained to her the method of treatment which would be necessary, to which she readily assented. This consisted in simply introducing into the vagina one of Hodge's lever pessaries. While, as already stated, there was no prolapsus in the case, nor had there been any, the use of the instrument had the desired effect. It righted the displaced organ and the restoration of motility followed as a natural consequence. The pessary had not been worn but a few days until she was able to walk with comparative ease. At least two months have elapsed since the paralysis was relieved, and while it cannot be said that she is not laboring, to some extent, under the hysterical condition, there has been no return of the troubles just referred to.

CASE III. This case was that of a young married woman, 26 years of age, of fine physical development, who had for years enjoyed uninterrupted good health. She was of a highly nervous temperament, and was irritable and obstinate in disposition. She was the second wife of her husband, who had a family of several children. With these, on one occasion, she became greatly exasperated, so much so that she was quite uncontrollable. Soon after this paroxysm of ill temper, she had a fit of crying, then she took to her bed, became quiet, and for three days scarcely spoke to any one. During this time she ate regularly, was conscious and did not complain. On the fourth day she closed her eyes, and claimed that it was impossible for her to open them. On the fifth day I was called to see her for the first time. She was lying on the bed, resting comfortably, was entirely free from pain, also from any undue excitement. She was rational and conversed quite freely; indeed her blindness, as she termed it, seemed to be the only feature in the case that was clearly abnormal. Having, as yet, received no information relating to the case, I was inclined at first to attribute the difficulty to a paralysis of the third pair of nerves, but as this was not likely to occur in the absence of symptoms pointing to cerebral lesion, and no such symptoms were observable—this fact, together with what I was able to learn of the circumstances immediately connected with the beginning of her ailment, led me to the conclusion that the case was one of hysteria. On raising the lids, which was easily done, the balls were found rolled upwards, so much so, that it was impossible to

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get a view of the pupils. For ten days the condition of the patient remained very much the same. Her general health was good, but the local disorder continued. At length I concluded I would try the virtue of blisters about the head and neck. To this she entered an emphatic protest and requested that I wait another day. I returned the following morning and found her sitting up, *with eyes open*, which in appearance were quite normal. She was lively and cheerful, and expressed herself as feeling unusually well. Her household duties were at once resumed and so far as I know she has had no return of the malady.

As to the cause of hysteria, but little seems to be absolutely known, and in this regard, with this, as with many other disorders that afflict humanity, the profession is not altogether a unit. While some, distinguished in the field of pathology, look upon it as an idiopathic disease, having its origin in some or all of the nerve centers, and of course wholly independent of reflex influence; others, scarcely less eminent, are of the opinion that it is primarily a local disease, and that its seat may always be traced to the sexual organs. In other words, that hysteria is a "reflex nervous derangement due to sexual irritation."

It is said to be a disease peculiar to females, but that it sometimes occurs in the male, there is no doubt, as quite a number of well authenticated cases of the latter have been reported. Within a recent period a well-defined case of the disease in the male was under my own charge. The patient was a young man, who admitted that he had been for years addicted to masturbation, which, doubtless, in this case, was the chief factor in the production of the disease. There can be no question, however, that sex stands at the head of the list among the predisposing causes of hysteria. Among others may be mentioned age, heredity, and the civil condition as it relates to the married or single state. Of those who are attacked with it, the vast majority are between the ages of 15 and 25; and as to hereditary influence, if the physician will take the pains to inquire into the antecedents of cases of hysteria which may from time to time come under his care and observation, he will find that a large proportion of them "had either hysterical mothers, aunts, or grandmothers." The condition of celibacy unquestionably predisposes

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to the disease. Why it should do so, is a question, in regard to which there are, of course, a variety of opinions.

Of exciting causes, their name is legion. Any circumstance or event, whatever may be its nature, which powerfully excites the emotions, whether the emotional disturbance be in the form of grief, fright, a fit of rage, great anxiety, or disappointment may bring on an attack. So also may causes or influences of a depressing character which tend to exhaust nerve force, whether from excessive bodily or mental exercise, or both. So also may the disease be induced as a result of reflex action consequent upon some local irritation. Nor do I think it necessary that in order that the disease be developed, the morbid local disturbance must be of a particular character, nor that it be located in any particular part of the body; it *may* be in the ovaries or uterus, it is *frequently* some where else. Why not? To claim that in every case of this malady the muscular movements and morbid manifestations have their focus in the reproductive system, would be doing violence, it seems to me, to the great law of reflex action. Why not the source of irritation be seated in some other part of the organism, as in bowels loaded with flatus or feculant matter? in a disordered stomach? a carious tooth or an inflammed eye? and so on *ad infinitum*. Again, how are we to reconcile the theory that insists that the cause of all hysterical symptoms is to be sought for in the sexual system, with the acknowledged fact that in many cases the most searching and rigid scrutiny utterly fails to detect in the sexual organs even the slightest derangement. In these cases how are we to escape the conclusion that the hysterical phenomena are due to a purely psychical cause? In other words, that the exciting cause is not peripheral, and therefore not uterine, but that it is primarily centric in its origin? Called to a case of this disease, it is improbable that any intelligent physician, with his wits well in hand, would be puzzled very long as to what the trouble is. There will be present in every case certain distinctive features which will generally enable him to arrive at a correct diagnosis with little difficulty. It should be remembered, however, that hysteria may be associated with other diseases, especially is this likely to be the case with individuals who possess the "hysterical diathesis."

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A young medical friend of mine had under treatment, in the person of a young lady, a case of typhoid fever of mild type. For years she had been subject to hysterical attacks, which were almost certain to supervene on any physical ailment. At the very commencement of her illness hysterical symptoms developed themselves and soon became prominent. While the physician was resting easy and congratulating himself on the supposed fact that the case was one comparatively free from danger, his patient died. As to the prognosis in any given case of this disease, if we would be governed by its past history, we can always calculate with absolute certainty on a favorable result, or rather, I would say, that in no case of uncomplicated hysteria is there danger to life, for while many cases are cured, at least temporarily, there are many others that no method of treatment, medical or moral, can do anything for, but these latter never succumb to the disease. As regards the pathology of hysteria, the profession is groping its way in a labyrinth of doubt and uncertainty.

That it is a disease of the nervous system, characterized by exaggerated emotional disturbance, with impaired volition or will-power, is a proposition to which all, perhaps, will agree; but as to the primary seat of the disorder, whether its starting point is in the uterus, or whether it is to be found in the brain, spinal cord or ganglionic centers, is a question upon which there is a radical difference of opinion. The weight of authority, however, at present seems to favor the cerebral theory. In conclusion, a few words relating to the treatment of hysteria. This, to be at all successful, for obvious reasons, must necessarily embrace the medical, moral and hygienic. Of the many drugs which, from time to time, have been used in the treatment of the disease, it would probably be safe to say that nineteen-twentieths of them have proved worse than useless. There is perhaps no class of medicines more largely employed in this affection than the anti-spasmodics. It has fallen to my lot to treat many cases of hysteria; not a few of them representing every conceivable phase, grade and character of this wonderfully strange disorder; in common with many of my professional brethren, and in obedience to the teachings of many of our text books, I formerly depended,

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in a measure, for the relief and cure of my patients, upon the use of the reputed remedies just referred to. I have tried honestly and faithfully, with my limited professional knowledge and meager ability, to watch and note their effects, and I trust I will be pardoned if I give it as my deliberate opinion that, as remedial agents in hysteria, they are comparatively valueless. I have over and over again, in the treatment of the disease employed many of the so-called nervous stimulants or anti-spasmodics; I have used them in large doses and in small ones, at short intervals and at long intervals, and for days and weeks in succession; I have given valerian, which has been regarded by Dr. Meigs and others as almost a specific in this affection; I have given it freely and persistently, in powder, solid and fluid extract; I have used lactucarium, assafœtida, hyosciamus, musk, belladonna, valerianate of ammonia, sulph. ether, camphor, and I hardly know what else, and I cannot not now recall to mind a single instance in which the administration of any of these drugs, alone or in combination, was followed by any *marked* beneficial results. There *is* a medicine, however, which may almost *always* be relied upon. I refer to the bromide of potassium. For the purpose of calming and quieting the irritable condition of the nervous system, preventing convulsive seizures, exerting a favorable influence over the mental state and of *curing*, in many cases, the exaggerated sensibility, or hyperæsthesia, which not unfrequently exists, I know of nothing that will compare with it. I generally give it four or five times daily in from 20 to 30 grain (1–2 gm.) doses, and continue it, if necessary, for an indefinite period. To control the convulsions, which, to say the least of them, are always the source, to the physician, of no little annoyance, many rely on the use of cold water applied to the head after the method of the douche; this to my certain knowledge, in many cases, is highly efficacious. To succeed, however, it should be used copiously and freely, and persisted in until consciousness is fully restored and the patient begs for quarter. But if any doubts should be entertained in any given case, as to the propriety of applying the douche, chloroform or ether may be administered by inhalation. The cold douche may, and sometimes does, fail us, but I think I may safely say that either of these anæsthetics,

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given for the control of hysterical paroxysms, can be depended upon in every case, with absolute certainty. For the relief of the paralysis, which in a certain proportion of cases, is a prominent feature, I have used with good effect, strychnia, in connection with phosphorus; conjoined with these, high authority recommends the employment of electricity, by the primary or induced currents, or both, as may be thought best. In the paroxysms of coma, which now and then resist, at least for the time being, all forms of treatment, the douche not unfrequently works wonders; some resort to the procedure known as "firing" with satisfactory results; others again depend upon blistering. An example of what this latter method of counter-irritation will sometimes accomplish, has already been referred to in another part of this paper. Of course it will be admitted that the good accomplished by these measures, that is, the employment of the cold douche, the anæsthetics, the counter-irritation, or the galvanic current, is mainly, if not altogether, due to their moral effect. With the view of destroying as nearly as may be what has been very properly termed the "hysterical condition," I have been using for a number of years, with encouraging results, phosphorus, combined with some one of the preparations of strychnia, I usually employ the formula, first recommended, I think, by Dr. William A. Hammond, viz: nux vomica grs. x, phosphide of zinc grs. iij. Mix and divide into 30 pills; one pill three times daily before meals. In giving the above prescription I have found it necessary, in some cases, to lessen the proportion of phosphide of zinc at least one-fourth in consequence of its tendency to gastric disturbances.

To succeed with it however, it will be found necessary in not a few cases, to continue its use, for weeks or months. To relieve indigestion and other forms of gastric derangement so common in this disease, I have found the comp. tinc. of gentian to act well in many cases; and as there is not unfrequently more or less vomiting, I am in the habit of combining with the gentian the dil. hydrocyanic acid. I give of this prescription two drachms three times every day, awhile before each meal. In addition to the above or as a substitute therefor, should there be acid eructations, attended with a flatulent condition of the stomach and

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bowels, a very valuable remedy will be found in the sub. nit. or sub. carb. of bismuth, given in fifteen or twenty grain doses *after* meals. The hygienic management of the disease will, of course, very naturally address itself to the attention and good sense of every intelligent physician, hence I feel that anything I might be able to say in that connection would be not only unnecessary but superfluous.

But, gentlemen, in spite of our best directed efforts looking to the cure of this disease, regardless of any or all of the means which may be used, or methods adopted, a very large proportion of the cases remain uncured; and until science shall have advanced still further into the domain of medicine, revealing to us truths connected with its pathology and etiology of which we are at present ignorant, you will, I think, agree with me in the proposition that the medical treatment of hysteria must necessarily be, to a large extent, empirical.

ARTICLE IV.

CEREBRAL RHEUMATISM. By P. O'CONNELL, M.D.

Five and a half years ago (January, 1875), the *American Journal of the Medical Sciences* published an elaborate paper with the above title, from the pen of Professor Da Costa, of Philadelphia. Cerebral rheumatism must always possess deep interest for practitioners, especially if it may be now and then encountered in a quasi-epidemic form. In the following pages it is intended to make some comments upon this disease and upon the paper named above.

After a careful perusal of the paper, I dissent from the conclusions drawn by the distinguished writer from the study of the twelve cases given by him. To me it seems clear that these were not at all instances of "cerebral rheumatism," as I shall endeavor to show.

The dates in some parts of the notes of the cases related are indefinite and somewhat jumbled. It is not always easy, therefore, to say definitely when certain symptoms first appeared, nor

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when changes in the treatment were made. The twelve cases embodied in Prof. Da Costa's paper, with the exception of Case IX, which was seen in consultation, and was an instance of chronic muscular rheumatism, were primarily cases of acute articular rheumatism, and, save Case IX, were all treated in the Pennsylvania Hospital. All received the same general, almost identical, treatment.

Dr. Da Costa limits "the term" (cerebral rheumatism) "to cases in which the nervous symptoms are prominent, and appear to constitute the real features of the affection."

"The disorder is not a frequent one, and has been chiefly commented upon in isolated cases. Whether from a distrust of results thus obtained, or from a real rarity of the affection, or whatever the cause, the medical journals and hospital reports may for years be searched in vain for any detailed records of it." *

"It has already been pointed out that uncomplicated rheumatism, however severe it may be, is rarely attended with cerebral disturbance." (Bristowe, First Ed., Pract. Med., page 820.)

That the disease is really rare, is well known. I find statistics of 5,783 cases of acute rheumatism reported by competent, able, fearless men, and no mention is made of any form of cerebral trouble. The reporters are men engaged in active, busy practice, both public and private, with an experience extending over twenty, thirty, and even forty years. Dr. Da Costa believes he has seen no less than twelve cases of this formidable malady in the short space of four years, and attributes this frequency with which the disease is met certain years over others to "some peculiarity of the rheumatic poison, which makes it fix more readily on the brain, as we sometimes see by way of exception the typhus fever poison attacking the intestine, or influenza producing a catarrh of the mucous membrane of the bowel, rather than of that of the respiratory tract." It is just possible, though probably not observed, that Dr. Da Costa has confounded several different and distinct diseases. Such is what, I believe, has happened, and what a perusal of the cases, as detailed in the *American Journal*, will show. I will give here the salient points

* The quotations are from Prof. Da Costa's paper, unless otherwise specified.

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of each case; to give them *in extenso*, or even a full abstract of each case, would occupy too much valuable space.

CASE I. Was sick two weeks before admission to hospital on Dec. 26, 1871. Convalesced from the rheumatism. Then albuminuria with suppression of urine followed, and the patient died in a stupor January 9, 1872. The autopsy, in which the brain was not examined, proved the existence of the large, hard kidney—Bright's disease. Clearly death was due to uræmia.

CASE II. Was sick two weeks before admission on February 25, 1871. Urine contained one-sixth albumen, with granular and oily casts. Died March 13, 1871. The autopsy revealed the existence of the large, pale kidney. Lungs congested posteriorly, with a pint of clear fluid in each pleural cavity. No intra-cranial lesion.

CASE III. Was sick ten days before admission on April 23, 1872. No urinary reactions are given. Patient was of feeble mind before admission. Dyspepsia, cough and dullness of right lung posteriorly were noted, as well as some petechiæ on abdomen. Urinated involuntarily in bed. Died April 29, 1872. No organic disease of the brain was found on *post mortem* examination. Meninges seemed congested, "brain firm, pale and anæmic." No other organ was examined.

CASE IV. Was sick four days before admission on January 18, 1872. Was a highly hysterical female. Had cough and "mild, good-natured mental aberration." Defecated and urinated involuntarily in bed. Died March 2, 1872. No disease of brain found on post mortem examination. Other organs healthy.

CASE V. Was four days ill before admission on January 3, 1874. Heart grew very feeble; had oppression in chest, rapid breathing, and "quiet and good-natured," but nearly constant delirium. There were "fine râles and faint friction at lower part of right lung; both lungs were congested." Recovered.

CASE VI. Was ill a week before admission on May 9, 1873. A puny, impoverished subject. Urine albuminous. Died in a stupor June 17, 1873. The brain was not permitted to be examined. The other organs were fairly healthy except the pericardium, which was adherent throughout.

CASE VII. Was ill five weeks before admission on December

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23, 1873. There were sonorous râles in posterior chest. Had active delirium one night. Died January 14, 1874. In the autopsy the brain was found anæmic; some hypostatic congestion of the lungs. Other organs healthy.

CASE VIII. Was sick twelve days before admission on March 4, 1872. Was hysterical and had headache, flushed face, prolonged and sobbing respiration at times. Urine not examined during life; some drawn from the bladder by catheter after death was highly albuminous. Micturition occurred involuntarily in bed. Died March 21, 1872 in an unconscious condition, the temperature just before death being 108.2°. No autopsy was permitted.

CASE IX. Chronic muscular rheumatism; seen by Dr. Da Costa in consultation. The notes were lost and the case is quoted from memory. There is insanity in the family; patient became insane, but ultimately recovered her health. Embolism was supposed to be the cause of the particular head trouble (insanity) noticed.

CASE X. Was sick eight days before admission on March 9, 1872. Face was noted pale and puffy, with large red spots on it. A typhoid condition developed. Delirium. Died comatose May 4, 1872. Post mortem: the brain alone was examined and only grossly, when nothing abnormal was seen.

CASE XI. Had "no cerebral symptoms," but the extraordinarily high temperature of 110°. Recovered.

CASE XII. Was ill a week before admission on January 7, 1870, and had treatment before coming into hospital. There was harsh breathing and dullness in posterior inferior thorax. Urine became diminished, albuminous and contained casts. Patient seemed dead once, when all treatment for the rheumatism was suspended and stimulants used very freely. Recovered by dint of stimulants.

"For the morbid anatomy of the affection I must refer to the autopsies in the individual cases. I will only point out that not in one was there any marked congestion of the brain; in tenth the brain is either mentioned as being normal and firm, as in Cases II and IV, or as pale and anæmic, as in Cases III and VII, or without lesion save a slight injection of the vessels of the

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membranes, as in case X. The brain lesion, or rather the state of the vessels, in Cases III and IV, is most interesting; and so is the acute degenerative disease of the kidneys in Cases I and II. I believe that both these morbid states will be found more frequently if they are closely looked for, and invite the attention of observers to these points. Some of the kidneys in the post mortem inspections here detailed were not examined with the care that, having noticed the changes, I should now bestow on them."

"In none of the autopsies did I meet with meningitis." Yet he admits that meningitis does occur; but he thinks "it is a very rare lesion; and what is called rheumatic meningitis is generally not meningitis at all but cerebral rheumatism with an absence of meningeal lesions.

"The temperature is apt to be high, the joint affection persistent, or even showing signs of increase; the breathing is rapid; the pulse frequent, compressible, and at times irregular. A cardiac difficulty may show itself distinctly as a complication, or again be wholly wanting. In some cases convulsions, in others local palsies happen, or we may have hemiplegia even suddenly developed. But these features are rare; and it is in the wakefulness and restlessness, in the stupor and delerium that we mostly find the signs of how decidedly the brain has become disordered.

"In some of the cases, hurried respiration attracted my attention without anything in the condition of the lungs or heart to account for it; occasionally, however, there is decided congestion of the lower lobes of the lungs."

A petechial eruption was observed in a few cases. "It consists of irregular dull red spots sluggishly influenced by pressure, and which may be perceptible after death. It probably depends on stagnation of the blood in the capillaries from paralysis of certain vaso-motor nerves."

"The delerium is not violent, and is rarely associated with headache. * * * It is generally worse at night; and sometimes has a strange hysterical semblance. The delirium is preceded by wakeful, dreamy nights, is generally mild, and it is during the restless nights that it shows itself most plainly. Though it may be a continuous, it is scarcely ever a fierce delirium, and is

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not, as a very general rule, linked either to headache, injected eye, or vomiting. It may run a rapid course, delirium or stupor quickly ending in coma, coma in death. But ordinarily it goes on for days, the patient gradually mending or becoming weaker and weaker, and passing, perhaps, into a condition very similar to that of typhod fever, excepting that the bowels are constipated."

Such is the clinical history of this formidable disease as observed by Dr. Da Costa. What is more natural than that, in highly hysterical patients, the delirium should assume "a strange hysterical semblance." This was noted in two females. The temperature is not given in case III. For the eleven others the average maximum temperature is 104°.

The urinary reactions published are scanty and imperfect. In cases I, II and VI, the urine was found decidely albuminous; in case VIII that fluid was not tested during life. After death it "was found to contain a large proportion of albumen." The albuminuria existed before death, and may have existed even before admission to hospital. If we grant, as the author asks, that the kidneys became acutely diseased during the progress of the rheumatism, the state of these organs is, alone, sufficient to explain the peculiar head trouble observed in these four cases; that is to say, the stupor, delirium, and coma were simply uræmic and no more. I question whether the large hard kidney could be produced in the short time of fourteen days in case I; or the large white kidney in sixteen days in case II. Dr. Da Costa thinks the impaired action of the kidneys is proof of the rheumatism attacking them.

"This case" (case I) "is a striking illustration of the occurence of cerebral symptoms after apparent convalescence. But it is chiefly valuable because it proves the lesion of the kidneys that may happen in acute rheumatism, and that did happen after the case had been actually sometime under observation, for the first records show that the urine was healthy. Moreover it shows in what manner exposure" (the patient had freely bathed) "may act, and explains the occurence of suddenly developed stupor passing into coma; and I suspect that nearly all the so-called apoplectic instances of cerebral rheumatism which have been placed on record,

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are of a nature which this case brings out, as indeed it suggests the explanation of many of the nervous phenomena of the malady."

"Here is another instance" (case II) "in which there was stupor as well as delirium and in which the examination, after death, showed the kidneys diseased, but not the brain." * * * "These cases" (cases I and II) "show, then, a remarkable coincidence in some of the symytoms, and tell us in what direction we are to look in instances of stupor, or stupor and delirium arising in the course of cerebral rheumatism, before we seek for the explanation elsewhere."

Prof. Da Costa tells us he saw cerebral rheumatism arise under very opposite plans of treatment, and even where no treatment is adopted. He scouts the idea of any form of treatment or any drug being the *cause;* yet, from his words, I infer that a strong suspicion lurked in his mind that certain drugs could play the part of *causation*, for he says: "I notice it in several of my cases which were treated with bromides; I see it coming on with and coming on without treatment, and the inference, therefore, is, that as it arises on such opposite therapeutical plans no drug is responsible; though of course it is evident that with certain symptoms arising some drugs had better be avoided or discontinued." No "opposite therapeutical plans" were tried in these cases, and no case was left without treatment. Indeed all received the same indentical treatment except case IX, who was a private patient under another practitioner's care.

He believes " the true pathology of the cerebral disorder is to be sought in the action of the rheumatic poison on the brain, whether it does so directly or indirectly, through the changed composition of the blood or by both concurring. To these elements is often added an altered condition of the finer vessels of the brain. In other words the rheumatic poison may fasten upon the lining coat of these as it does upon the endo-cardium, and, favored by the altered condition of the blood, lead to plugging, as was so distinctly found in Case IV, and as was beginning in Case III. Occasionally it may be an embolus washed from the heart into the cerebral vessels that occasions the circulatory disorder, but more usually it is a thrombus there formed; and if in any case there be not actual obstruction, there is still

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circulation of altered blood, which, moreover, is apt to be still more vitiated by the impaired action of the kidneys—itself another expression of the rheumatic poison seizing upon an internal organ. The common condition of the brain tissue in cerebral rheumatism is that of nutrition interfered with, and of anæmia; and where rheumatic endocarditis or pericarditis coexist, this may show itself all the more quickly."

"A peculiar modification of meningitis occasionally sets in during the progress of acute rheumatism. The invasion is sudden, is accompanied by great fear of impending death, is followed by delirium, and often ends fatally—sometimes very rapidly so." — Tanner, Pract. Med., Sixth Ed., Vol. 1, page 345.

M. Bouchert says: "The serious complication of acute articular rheumatism called cerebral rheumatism is only—as proved by pathological anatomy and by the opthalmoscoscope—a form of meningitis. Examination of the membranes of the brain reveals a considerable venous stasis with an opaline infiltration of pia mater, caused by numerous leucocytes * * * * Rheumatism of the brain is ushered in by delirium more or less violent, terminating by coma or by asphyxia, sometimes very rapid which may cause death in a few hours."

There is no cellular tissue in the brain upon which the rheumatic poison can "fasten." The membranes, particularly the dura mater, which anatomically most closely resembles the tissues usually attacked in acute articular rheumatism, are the structures, within the cranium, liable to be involved. Then we should have the *délire foudroyant* of Virchow—intense delirium, convulsions, followed by rapid coma and death. "Mild, good-natured delirium" with meningitis would be very pleasant indeed. That cerebral rheumatism is ever due to embolism of the cerebral vessels is extremely doubtful. Emboli washed into the cerebral vessels in size or number to give rise to symptoms cause, usually, sudden convulsions, loss of consciousness, etc. Such is what is sometimes seen after ligature of the common carotid artery. Such, too, are the symptoms observed by me in cases of undoubted embolism of the cerebral vessels. The convulsions, etc., are due to the sudden deprivation of blood to a considerable part of the brain—to temporary anæmia of that

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part with consequent loss of function. Why should embolism during the course of acute articular rheumatism give rise to different results?

To suppose the "lining coat" of the cerebral vessels may be attacked, as Dr. DaCosta asserts, like the endocardium, while the endothelium of the vessels of the rest of the body escapes, lacks proof. There is no difference between the endothelium of the cerebral vessels and that of the general system. How then can he account for the exemption in the latter vessels. Besides, there is no anatomical indentity in the endothelium and in the endocardium. Can the poison attack the brain tissue proper, and not give evidence, post-mortem, of such implication? We have altered blood in all cases of rheumatism, yet how seldom do we see cerebral trouble.

In *diagnosis*, Dr. DaCosta considers it very important to distinguish the exact form of cerebral disturbance present. Some of those developed suddenly and formerly called apoplectic, he attributes to uræmia, while others are due to emboli washed from the heart into the cerebral vessels. Where hysterical delirium is marked, he thinks the condition is "plugging of the arteries of the brain from rheumatism affecting them, and not from heart disease." Where the delirium is fitful with a typhoid state, he thinks it is cerebral rheumatism with "anæmia of the brain." "Sometimes the symptoms are so truly typhoid that we ask ourselves whether such cases ought to be classed with cerebral rheumatism; would it not be better to regard them as 'typhoid rheumatism,' and to view the cerebral symptoms in the same light as we do those of the low fevers?" "In looking further at the diagnosis of cerebral rheumatism, we must not forget that the cardiac lesions may produce head symptoms."

The prognosis is very grave.

Treatment.—"Where we can, the treatment for the rheumatic symptoms must be continued, and in a form that shall not be depressant; hence I do not think the bromides ought, as a rule, be employed, which I did for a time, until I understood the meaning of the cerebral symptoms better." I might ask why the bromides were employed at all? Has bromide of ammonium —the salt employed by Dr. Da Costa—any curative value in

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acute rheumatism? Has any writer recommended its use in rheumatism? Not that I am aware. Nor do I think it possesses any curative power in such disease. It is depressant; it was not discontinued at all, but persistently employed to the last, even with Case XII, in which that drug was given until the patient appeared dead. It was then set aside and stimulants used liberally and boldly until the patient rallied and finally recovered under stimulants. Of stimulants, Dr. Da Costa thinks highly, and regrets not having used them more freely.

The treatment pursued in these eleven cases, when contrasted with the usual methods or with cases where no treatment is adopted, does not commend itself to others for imitation. In *twelve cases* "allowed to pursue their course under favorable hygienic circumstances, uninfluenced by therapeutic interference, the mean duration of the disease was twenty-six days, the minimum being twelve, and the maximum fifty-six days," says Dr. Austin Flint. In Dr. Da Costa's *eleven cases* (Case IX is omitted as being chronic) the minimum is sixteen days, the maximum sixty-five, with an average of forty-one days. This is far in excess of Dr. Flint's cases without treatment.

Closely examining these twelve cases of "cerebral rheumatism," the first was an instance, clearly, of Bright's disease in which hebetude, stupor, suppression of urine and death followed the usual course. The cause of death, as well as the peculiar "head symptoms" noted during the last illness, was explained by the discovery, post mortem, of the large, hard kidney. The brain was not examined. It is difficult to understand why the case is classed as one of cerebral rheumatism, when the pathological condition characteristic of Bright's disease was proved. Were not the delirium, stupor, and coma due to the state of the kidneys? And is it not just possible that the organic lesion of the kidneys was the cause of the rheumatism? This case, then, must be excluded.

In Case II there was albuminuria, granular and oily casts, and diminution of urine. Post mortem, the lungs were congested (hypostatic?); the kidneys large, pale, and in a state of fatty degeneration. This case, too, must be excluded, for it is another instance in which the peculiar cerebral condition can be

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attributed, and justly so, to the state of the blood owing to the kidney disease, as the autopsy so clearly proved. I think Prof. Da Costa goes out of his way to explain the "head symptoms" in these cases, on the hypothesis of cerebral rheumatism, when the explanation is given by the cases themselves in the organic disease of the kidneys. How does Dr. Da Costa diagnosticate these as instances of cerebral rheumatism? How does he differentiate between delirium, stupor, and coma occurring in the course of Bright's disease, and cerebral rheumatism, when his only data for calling these cerebral rheumatism were the stupor, delirium, and coma? Pneumonitis would appear to have complicated Case V. In Case VI also there was albuminuria on admission, with the pale, puffy face so indicative of Bright's disease. The kidneys were not examined microscopically. In Case VIII the urine was not tested during life; some drawn from the bladder after death was highly albuminous. Of course it was so before death. I think these two cases were likewise instances of organic lesion of the kidneys, and the delirium, stupor and coma were due to the state of these organs—to uræmia. In Case IX, Dr. Da Costa himself believes embolism of some cerebral vessels was the particular form of intra-cranial lesion present. There is insanity in the family; the patient, a lady subjected to severe trials, became insane, in which condition Dr. Da Costa saw her in consultation. Surely this case is not entitled to be called cerebral rheumatism. Case XI manifested "no cerebral symptoms" whatever. I cannot understand why the case is given in this paper at all.

Excluding, then, Cases I, II, VI, VIII, IX and XI as not being "cerebral rheumatism" at all, we have six cases which closely resemble each other. All were instances of acute, articular rheumatism receiving the same treatment. Taking the entire eleven cases treated in hospital, eight died and three recovered. Of the eight who died the brain was not examined in two; the brain alone was examined in two; no autopsy was permitted in one; and a general post mortem examination was made in three. Dr. DaCosta himself admits the autopsies were not as carefully made as they should be. Deduction from partial exam-

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inations cannot, obviously, be reliable nor valuable. As far as they went they revealed no organic disease of the brain.

The eleven patients were treated with bromide of ammonium, a neutral salt, and given in doses of twenty grains every two, three or four hours. It is quite remarkable that, though all the patients were several days—a few even weeks—sick before coming into hospital, yet nevertheless, neither delirium, stupor nor coma appeared before admission. These symptoms invariably appeared after the use of the bromide, in from four days the shortest, in a feeble-minded female, to twenty-four days the longest period after its exhibition had been commenced. This I consider a very important fact and the key to the whole trouble. It is also remarkable that in the cases in which the use of the bromide was persevered with, all died; that when it was discontinued at a comparatively early stage of the delirium, etc., as in Cases V, XI and XII, and acetate of potass., although only a remote, alkaliac remedy, substituted, the urine was soon found alkaline and maintained so by the use of the same drug, all three cases recovered. Stimulants, no doubt, contributed their share towards recovery.

Out of the eleven cases no less than six manifested some pulmonary trouble or complication. In Case II the lungs were congested; in Case III there was dullness on percussion, feeble respiratory murmer and cough; in Case IV there was cough; in Case V rapid breathing, oppression in chest, "fine râles and faint friction at lower part of right lung; both lungs were congested." In Case VII there were sonorous râles in posterior thorax and hypostatic congestion found post mortem. Case XII had dullness and harsh breathing posteriorly.

Wakefulness, delirium, stupor, pulmonary complications, such as hurried respiration and congestion of the lungs and paralysis of the sphincters shown by involuntary micturition and defecation in bed, are prominent features of Dr. DaCosta's cases. When the nutrition of the brain is lowered, as occurs in anæmia of that organ, it is hardly necessary to say the mental, motor and sensory functions are all more or less interfered with or perverted; that the peculiar delirium, coma, etc., observed by Prof. DaCosta are just that kind which capillary anæmia of the brain

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produces. He himself had a suspicion that the delirium might be caused, in the manner stated, by the bromide of ammonium, for he says: "I notice it in several of my cases which were treated with bromides;" and thinks the bromide of ammonium is one of the drugs which "had better be avoided or discontinued" since it is a decided depressant. But what caused the anæmia of the brain? Was it the bromide of ammonium? I think so.

Garrod, Meuriot, Amory, and especially Brown-Sequard have concluded from their experiments, "that bromides contract all the blood-vessels, producing anæmia of the brain and spinal cord and so diminishing the excitability of these organs." Experiments show that the bromides are vaso-motor stimulants, especially to the capillaries, and that the contraction of these vessels is due to the stimulation of the vaso-motor system. Bromides affect the reflex function of the cord only. They depress the sensory nerves, hence tickling, pinching and pricking of the soles of the feet give no evidence of sensation. They exercise a depressing influence upon the motor ganglia of the heart, lessen the frequency and force of the contractions of the heart and finally arrest it in diastole. "Diminished sensibility, followed by complete anæsthesia of the soft palate, uvula and upper part of the pharynx is the first symptom that the patient is getting under the influence of the drug," says Bazaire. Bromides induce general complete paralysis; they render patients low-spirited. Dr. Clark and others consider the well-known hypnotic effect of the bromides is due to the anæmia of the brain induced by these salts. Too much anæmia, Dr. Clark tells us, after experiments on himself, induces wakefulness, while a less degree produces sleep. It is well known that bromide of potassium produces an acneform rash, eczema, and spots resembling erythema nodosum.

To my mind Prof. DaCosta's cases show very clearly the physiological and the toxicological effects of the bromide of ammonium. The restlessness, sleeplessness, palsies, delirium, stupor and coma, except where due to organic disease of the kidneys as already pointed out, were due, I think, to the persistent use, in full and frequent doses, of the bromide of ammonium. I cannot, therefore, agree with the distinguished professor that the cases published were "cerebral rheumatism" at all. Bromide of

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ammonium is, in my opinion, clearly contra-indicated in acute articular rheumatism, since it is a powerful depressant, and possesses neither curative nor palliative value in that disease.

We may thus sum up the action of the bromides. They act as local sedatives, diminishing and, in large doses, arresting muscular action and irritability. By direct contact they lower and paralyze nervous excitability in general, but more especially that of the glosso-pharyngeal nerves. They weaken and finally arrest the respiratory movements. They lower the action of the heart in a remarkable manner; cause diminution of the caliber of the capillary vessels, and, through the capillaries, act on all organs and tissues supplied by these vessels. They are eliminated through the saliva and urine and also through the skin in lesser quantity, giving rise to an erythematous eruption. In fine, their chief action being that of a vaso-motor stimulant, and such action being produced by direct contact, their effects will be chiefly manifested in those organs with which their contact will be most prolonged, that is, those through which they are eliminated. Hence their special action on the throat and on the urino-genital organs.

SUMMARY OF THE CASES.

CASE.	DISEASE BEGAN.	ADMITTED TO HOSPITAL.	DELIRIUM BEGAN.	DISEASE LASTED.	RESULT.
I.	Dec. 15, 1871.....	Dec. 26, 1871.....	Undetermined.....	30 days.....	Died Jan. 9, 1872.
II.	Feb. 18, 1871.....	Feb. 25, 1871.....	On 21st day of treatment.	24 "	" March 13, 1871.
III.	April 13, 1872.....	April 23, 1872....	On 4th " "	16 "	" April 29, 1872.
IV.	Jan. 14, 1872.....	Jan. 18, 1872.....	On 17th " "	48 "	" March 2, 1872.
V.	Dec. 31, 1873.....	Jan. 3, 1874.....	On 11th " "	54 "	Recovered.
VI.	May 2, 1873.....	May 9, 1873.....	On 23d " "	46 "	Died June 17, 1873.
VII.	Nov. 12, 1873.....	Dec. 23, 1873.....	On 7th " "	58 "	" Jan. 14, 1874.
VIII.	Feb. 21, 1872.....	March 4, 1872....	On 24th " "	27 "	" March 20, 1872.
IX.	Undetermined—chronic	Private practice.	Became insane.....	Chronic muscular.	Recovered.
X.	March 1, 1872.....	March 9, 1872....	On 25d day of treatment.	65 days.....	Died May 4, 1872.
XI.	Jan. 17, 1870.....	Jan. 20, 1870.....	None	24 "	Recovered.
XII.	Jan. 1, 1870.....	Jan. 7, 1870.....	On 6th day of treatment.	60 "	"

DR. M. O. JONES, for the last four years a resident practitioner in this city, has removed to his old home in Pittsburgh, Pa. During his residence here he won the confidence and esteem of all with whom he became acquainted.

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Clinical Reports.

ARTICLE V.

Iodide of Ethyl in Asthma.

I have recently had a very satisfactory experience with this remedy in an obstinate case of asthma.

The patient is a youth about fifteen years old, who inherits instability of nervous action from both parents. He has had obstinate attacks for six years past, especially during the spring and summer months.

The only complete relief he has heretofore had has been by change of residence. He has tried about all the remedies that have been suggested, such as nitrate of amyl, chloral, morphia, bromide, belladonna and galvanism, without benefit. Partial relief was obtained for some time by smoking a portion of the following combination, which in some cases has acted well:

℞ Dracenti radi. pulv.....ʒj
Stramonii foliæ pulv.....ʒj
Lobeliæ pulv.....ʒvj
Potassii nitratis pulv.....ʒss
M.

In the attack that commenced this spring this recipe seems to have been of but little service. I therefore ordered him, as recommended by Prof. Lee of Paris, inhalation of the iodide of ethyl. The preparation used was made by Nesrck of Darmstadt and imported by E. H. Sargent & Co. of this city.

After several trials we found the effective dose to be six drops. This relieved the paroxysms as if by magic and no unpleasant symptoms followed its use. The only new sensation there seems to have been experienced was occasionally a slight sense of numbness

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in the feet and hands. Under its daily use the intervals between the paroxysms have grown longer and the severity of the attacks has been relieved.

It may be well to add that for some time past, previous to the use of the iodide of ethyl, I had been giving him iodide of potassium with tonics, but the surprising effects upon the paroxysms was clearly due to this new remedy for asthma.

DANIEL R. BROWER, M.D.

ARTICLE VI.

A Case of Superfœtation.

Mrs. G. aged 20, primapara, married about ten months, was taken with slight labor pains on the evening of April 18th.

I was called at 3 o'clock p. m. on the 19th; after a short but severe labor she was delivered of a healthy, full-termed female child of about five pounds weight. The placenta was delivered without any unusual difficulty. I called on the following morning and found the patient in good spirits and free from pain.

About 9 o'clock p. m. on the 21st, while using the vessel, there passed from her a complete, unruptured sac containing a male fœtus, and placenta, in appearance of about four months gestation. (We have the fœtus in our possession.) The following afternoon saw her in an easy and painless condition.

She has made a rapid recovery, and the child is healthy. Upon questioning her she stated that she had her menstrual flow for three or four months after she was aware of her pregnancy. A close inspection revealed no evidence of a double uterus.

Playfair in his "System of Midwifery" page 162, quotes from Tyler Smith as follows:

"A young married woman, pregnant for the first time, miscarried at the end of the fifth month, and some hours afterward, a small clot was discovered, inclosing a perfectly healthy ovum of about one month. There were no signs of a double uterus in this case. The patient had menstruated regularly during the time she had been pregnant." To this the author adds:

"This case is of special interest from the fact of the patient

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having menstruated during pregnancy—a circumstance only explicable on the same anatomical grounds which render superfœtation possible. So far as I know, it is the only instance in which the concidence of superfœtation and menstruation during early pregnancy has been observed."

We find that eminent authors, as Churchill, Ramsbotham and Hunter, claim that superfœtation is impossible.

We are inclined to the belief that Playfair's explanation on pages 162–163 bears us out on the opinion that this is a true case of superfœtation.

D. A. WALDEN, M.D.

BEATRICE, Neb., June 18, 1880.

THE active state of the constrictor cervicis muscle is in the period of gestation, during which process it is transformed into the constrictor oris uteri, but in the dormant condition of the unimpregnated uterus this muscle becomes very often like an idle individual, mischievous, converting by morbid compression the veins underlying it, not into mythical, but into actual closed Pandora boxes. From the very beginning to the end of pregnancy, the life of this muscle is evolution and growth, and its office that of a support, whereby it is prepared for a supreme effort during and after parturition; but in the dormant state of the unimpregnated uterus its slow, feeble, and stealthy, but persistent, contractions are, when they occur, always morbid. The relation this constrictor muscle bears to the veins of the cervix, and the agency or *vis morbi* it possesses of becoming by closing them a *causa morborum*, thereby producing multiform diseases, have never, so far as is known, been even hinted at, much less described, by any medical, surgical, or physio-pathological writer. —*T. H. Buckley in his Notes on the Anatomical Relations of the Uterine Structure.*

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Society Reports.

ARTICLE VII.

AMERICAN MEDICAL ASSOCIATION.—THIRTY-FIRST ANNUAL MEETING, HELD IN THE CITY OF NEW YORK, JUNE 1, 2, 3, AND 4, 1880.

The American Medical Association has held its thirty-first annual meeting, and has adjourned, leaving the record of a very pleasant social event and a fairly successful scientific gathering. The number of delegates was unprecedentedly large. By the evening of the second day 1,152 had registered, and the total number of delegates and visitors together was probably over 1,500. The country was well represented in all sections. The number of foreign visitors, however, was extremely small. Mr. Joseph Hutchinson, of Liverpool, Mr. Jonathan Hutchinson, of London, Dr. Ercolani, of Bologna, and Dr. Dillon, of Dublin, were the only persons from across the water whose names I saw mentioned. There were several medical gentlemen from Canada and South America, however. More than a hundred persons were made members by invitation.

THE ARRANGEMENTS

for the work and entertainment of the guests were well made, and everything went off smoothly, except the registering of delegates. It took nearly two days for this to be completed, and there was much inconvenience and delay occasioned. The pro-programmes of the work were published daily, instead of one for the four days, as heretofore. This did not suit the Association evidently, for it passed a resolution to have a single programme for the general sessions of the next meeting. A novelty in the way

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of medical jurnalism was the publication of a daily edition of *The Medical Record* containing a full account of the previous day's proceedings. This display of journalistic enterprise was commended by a vote of thanks from the Association to Dr. G. F. Shrady, the editor of *The Record*.

The meetings were held in the large hall and other rooms of the Young Men's Christian Association, and in the amphitheater of the College of Physicians and Surgeons, which is close by. The work was organized at first, as usual, in one general session and five special sections. In addition, however, on the second day, a temporary section on diseases of children was created, and by a vote of the Association this section was made permanent and was regularly officered for the next meeting.

THE SOCIAL PART

of the programme was a conspicuous one, and likely to be remembered as extremely pleasant. New York is the metropolis of our country, and some pride was felt that the entertainment of her guests should be worthy of the city. On the evening of the first day a reception was given at the Academy of Music. Music by Graffula and a supper by Delmonico were the special attractions. It seemed as though everybody went and took their friends. Two immense halls were crowded, and when the supper was served, were especially lively. The amount of salads, strawberries, ices, cakes, confectionery, sandwiches, lemonade, and iced coffee which was made to pass through peptonizing and endosmotic processes must have made the heart of the caterer quail. But there was enough, be it further recorded to the credit of the committee of arrangements and Mr. Delmonico. A large number of prominent medical men were on the floor, and a few of the laity watched the scene with interest. There were comparatively few ladies and but half a dozen grand toilets.

The next evening was taken up with an entertaiment at Booth's theater, given by Messrs. Reed and Carnicks, Scott and Bowne, the New York Pharmacal Association, and others. Mr. Booth acted Iago in Othello. The cast was an excellent one, and the play was doubtless much enjoyed by the many who rarely have an opportunity to see our greatest tragedian in one of his best

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characters. Thursday evening was given up to receptions by several private citizens and by the Mayor of the city. Mr. August Belmont received in the art gallery which forms part of his house. His collection of paintings is one of the best in the city, and his kindness in opening it to the medical profession was doubtless duly appreciated. The rooms were crowded the whole evening. Drs. Fordyce Barker and T. Gaillard Thomas received in the Academy of Medicine. On Friday afternoon, after the final adjournment of the meeting, there was a steamboat excursion up the Hudson, up the East river, and then down to Coney Island, where a lunch was served. This gave the guests an opportunity to see all the notable sights about New York. The excursion was given by Messrs. Wm. Wood & Co., to whom a vote of thanks was tendered during the trip.

THE BUSINESS DONE

by the Association was not very great, but all the questions that could well be disposed of were attended to. The Committee on Prize Essays announced that only one paper had been handed in and that it did not deserve a prize, so that none was given. As has been mentioned, a Section on Diseases of Children was created.

Considerable discussion was aroused by an attempt to exclude the naval delegation from the floor. An unsigned protest against its admission was sent to the Judicial Council, it being alleged that, a quack remedy, Holman's Liver Pad, had been bought and used by the Medical Department. It was voted to admit the delegation. Considerable discussion took place over a suggestion made by the President to substitute a periodical medical journal in place of the transactions, after the manner of the British Medical Association. The committee to whom the matter was referred, reported that it was better to wait the law of growth, and advised no immediate action in the matter. A committee of five will further examine into the matter and report at the next meeting.

The report of the Committee on Ozone consisted of a letter from Dr. N. S. Davis, its chairman, saying that it had been as yet, impossible to obtain satisfactory and reliable data upon the

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subject. He asked for $200 to continue the investigation, and it was given.

The constitution was so amended as to allow one delegate from the United States Marine Hospital Service.

The subject of the Metric system was elaborately reported on and discussed. Many hard knocks were given it, but the Association stood by its position of last year, and passed the following resolutions:

First. That it recommends the teaching and practice of the Metric system in medical colleges, clinics, dispensaries, etc.

Second. That it charges its Executive Metric Committee with the duty to report annually on the above institutions which teach, and those that do not teach the Metric system.

Third. That it authorizes said committee to enter into communication with the Metric Committee of the British Medical Association, in order to concert such plans as may render the use of the Metric system simultaneous and uniform in both countries.

Dr. Theophilus Parvin, chairman; Dr. Edouard Seguin, secretary; Drs. Edward Wigglesworth and F. R. Weisse, Executive Metric Committee.

The report of the Librarian showed that there were 3,258 volumes in the library; $200 was voted for continuing the librarian's work.

The following gentlemen were appointed delegates to European Medical Societies: Drs. Beverly Cole, Cal.; Benj. Lee, Philadelphia; M. A. Pallen, New York; and L. D. Bulkley, New York.

The committee appointed to consider the project of establishing a medical journal consists of Drs. W. W. Dawson, O.; J. R. Bronson, Mass.; W. H. Pancoast, Pa.; N. C. Husted, New York; J. S. Green, N. J.

The delegates to the Canadian Medical Association are: Drs. C. N. Brush, Buffalo; James R. Leaming, New York; D. H. Goodwillie, New York; Wm. Brodie, Detroit; W. B. Ulrich, Pittsburg.

A committee was also appointed to try and secure the official position for the members of the medical staff of the United States Navy, which is their due.

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The subject of the Abuses of Medical Charities was referred to a committee consisting of Drs. Benj. Lee, H. G. Piffard, S. W. Gross, and J. W. Green.

The Treasurer's report showed the receipt of $5,025, and a balance in the treasury of $579.50.

An honorarium of $1,000 was granted the Permanant Secretary.

The following resolutions, sent up from the Section on State Medicine, were adopted:

First. Indorsing the National Board of Health.

Second. Recommending medical schools to establish a chair of State Medicine as part of the regular curriculum.

Third. That the name of the section shall be "Section on State Medicine."

Fourth. That the Committee on Prize Essays shall be Drs. S. E. Chaillé, La.; J. L. Cabell, Va.; and A. N. Bell, New York.

The following officers were elected for ensuing year:

For President—John T. Hodgen, M.D., of St. Louis, Mo.

For Vice-Presidents: First—W. H. Anderson, M.D., of Mobile, Ala. *Second*—Levi G. Hill, of New Hampshire. *Third*—Henry T. Holton, of Vermont. *Fourth*—H. Carpenter, of Oregon.

For Permanent Secretary—W. B. Atkinson, M.D., of Philadelphia, Pa.

For Secretary—Dr. W. H. Bradford, of Boston.

For Assistant Secretary—Dr. J. G. Cabell, of Virginia.

For Committee of Publication—The same as last year: Drs. W. B. Atkinson, T. M. Drysdale, Wm. Lee, R. J. Dunglison, Albert Fricke, S. D. Gross, and Casper Wistar, all of Philadelphia.

For Chairman of the Section on Diseases of Children—Dr. S. Jacobi, of New York.

For Treasurer—R. Dunglison, M.D., of Philadelphia, Pa.

For Librarian—William Lee, M.D., Washington, D. C.

For Chairman of the Section on Practice of Medicine, Materia Medica and Physiology—Dr. Wm. Pepper, of Philadelphia.

For Secretary—Dr. T. A. Ashby, of Maryland.

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For Chairman of the Section on Surgery and Anatomy—Dr. H. McGuire, of Richmond, Va.

For Secretary—Dr. D. A. Eve, of Tennessee.

For Chairman of the Section on Obstetrics and Diseases of Women—Dr. James R. Chadwick, of Boston, Mass.

For Secretary—Dr. J. Taber Johnson, of Washington, D. C.

For Chairman of the Section on Medical Jurisprudence and State Medicine—Dr. J. T. Reeve, of Wisconsin.

For Secretary—Dr. R. G. Young, of Arkansas.

For Chairman of the Section on Ophthalmology, Otology, and Laryngology—Dr. D. S. Reynolds, of Kentucky.

For Secretary—Dr. S. M. Burnett, of Washington, D. C.

For Members of the Judicial Council, to fill vacancies—Drs. J. K. Bartlett, of Wisconsin; F. Staples, of Minnesota; D. R. Wallace, of Texas; J. S. Billings, of U. S. Army; J. H. Warren, of Massachusetts; and A. T. Woodward, of Vermont.

The Committee recommended that the next meeting of the Association be held in the City of Richmond, Va., on the *first Tuesday* in May, 1881.

As Chairman of Committee on Arrangements—Dr. F. D. Cunningham, of Richmond, Va.

During the course of the sessions a resolution of condolence was voted to the President for his recent great bereavement in the death of his son. The usual resolutions of thanks to the various persons who had contributed to the success and enjoyment of the meeting were also passed.

THE ADDRESS

by the President and the Chairman of the various sections formed prominent features of the general sessions. The opening address of welcome, by Dr. T. Gaillard Thomas, was a particularly eloquent and appropriate one. He referred to the changes that had passed over the country since the Association met in New York, sixteen years ago, and spoke of the wealth which New York had lavished upon its hospitals and charities. In conclusion he said that the end and object that brought the Association together was to emit and absorb thought, to give one another friendly greeting, and the hand-shake, and the kindly interchange

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of expression, and to advance the interests of a profession which most closely allied man to his Maker. Let it be hoped that the work done in the Association would lead those who tread in our steps to say, they met those who, like Ben-Adhem, loved their fellow-men, and strove earnestly in their cause. "In the name of the united profession of the city of New York and with outstretched hand and a glowing heart, I bid you welcome, thrice welcome to our home."

THE PRESIDENT'S ADDRESS

was most interesting in those parts where he took up practical points and discussed them. He began by congratulating the Association upon the marked improvement in numbers, work and kindly feeling among its members. He then went over some of the contributions to surgery and medicine which America had made, and showed that the reproach of having done nothing in this department is no longer deserved. The merits of the Metric system were thoroughly discussed.

A letter from Dr. J. B. Hamilton, Surgeon-General of the U. S. Marine Hospital Service, was read. This gave unqualified testimony to the value of and practical workings of the new system. Dr. Hamilton stated specifically that (1.) No serious difficulty had attended the adoption and exclusive use of the Metric system. (2.) That no mistakes had occurred through the usage. (3.) That volumetric methods were retained. He suggested that volumetric methods should be retained wherever the system was adopted.

The subject of the publication of the Transactions needed consideration, as there was great dissatisfaction with the present method. The plan of establishing a weekly periodical similar to the *British Medical Journal*, was broached. The history of the growth of the British Medical Association, and its rapid increase in prosperity after the establishment of a large journal, was given. Dr. Sayre was inclined to look favorably on the American Association undertaking a similar journal. In case this were done, the importance of having it well done and of having a competent man as editor, was insisted on.

The addresses by the

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CHAIRMEN OF THE SPECIAL SECTIONS

Were all of considerable interest but were, none of them, remarkable performances. Neither did they cover the ground generally expected of them, that of noting the progress in the different branches of the sections upon which they were chairmen.

Dr. J. S. Lynch, of Baltimore, Chairman of the section on Practice of Medicine was not able to resist the general craze for discussing the importance of preventive medicine. He began by congratulating the association on the general good health of the country, a kind of congratulation that is apt to fall rather flat on an assemblage of doctors. The pathology of yellow fever was touched upon. The germs of this disease he said, were peculiar in the fact that they were not active when first emitted from the body, but required a certain time for development. Considerable evidence was given to support this statement. It being true, there was always time to destroy these germs when a case of yellow fever appeared, before they reached their stage of activity. Dr. Lynch referred to the possibilities of preventing or lessening scarlatina, diphtheria, consumption etc. He then went over the subject of antipyretics, and made an eloquent conclusion, describing the present position and triumphs of medicine.

The address of the chairman of the section on Surgery and Anatomy was devoted entirely to the subject of Preventive Trephining. After giving the history of trephining, he said that there were three different views held by surgeons on the subject: 1. That the trephine should never be used; 2. That it should be used simply to cure, *i. e.*, to relieve symptoms already developed; 3. That it should be used as a prophylactic to prevent the probable onset of symptoms. Dr. Briggs defended the third view, and urged the use of the trephine as a preventive. Dr. B. did not think trephining dangerous if done before the secondary effects of traumatism developed. In extensive comminuted fracture of the skull, the surgeon should not wait for symptoms of compression or inflammation to develop. The results of thus waiting and then operating are about as bad as of not operating at all. On the other hand, statistics show that prompt trephining for prevention of symptoms gives the best results. Of 106 cases, two-thirds had been saved by preventive trephining. In

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forty-two cases thus operated on by Dr. B., thirty-eight had recovered. He stated as essential to success, that there should be full antiseptic precautions, the use of the conical trephine, entire removal of all loose fragments of bone, and perfect drainage of the wound.

The address of the chairman of the section on State Medicine, Dr. James F. Hibbard, of Richmond, Indiana, was a very able and pertinent one. It has not however, so much of general interest, and I refer to it briefly. Dr. Hibbard stated, under the head of hygienic progress, that there had been published 1,525 documents on public hygiene during 1879, against 459 in all previous time; a statement that appears rather incredible. In discussing medical jurisprudence, Dr. Hibbard took ground against death by hanging, and mentioned the fact that Judge Heller, of Indianapolis, had for the first time, sentenced a man to be hung on Wednesday instead of Friday. The rest of the address was devoted to various problems is psychology and psychiatry.

THE WORK OF THE SECTIONS

began in the afternoon and lasted generally until five or six o'clock. The surgical section showed the most enthusiasm, and loquacity, twice keeping up its discussions until seven o'clock. Here as in other sections, there were a good many papers of practical value read and much instructive comment excited. Very few papers indeed, however, could take any high rank as showing elaborate study or rigid scientific method. One feature of the papers was that quite a number had been read or had appeared in substance before.

THE SECTION ON PRACTICE OF MEDICINE, MATERIA MEDICA AND PHYSIOLOGY

of which Dr. J. S. Lynch, Baltimore, was chairman, and Dr. W. C. Glasgow, of St. Louis, secretary, opened with a paper by Dr. Wm. H. Thomson, of New York, on

THE CLASSIFICATION OF MEDICINES.

Dr. Thomson is Professor of Materia Medica in the University College here, and he presented views on classification which he

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has for many years been teaching. He thought that all drugs may be assigned to one of two classes. The first-class includes those drugs which, whatever the dose, shows their special effect at once. Opium, emetics, cathartics, neurotics are examples of this class. They act immediately, producing symptoms; they affect functions rather than organs or structures. They show their effects equally upon sick and well. The other class includes those drugs whose action is not immediate, or if it is, it is not remedial. They produce their therapeutical results slowly. They do not produce symptoms, or if they do, they are not acting remedially. Iron, iodide of potassium, mercury and arsenic are examples of this class. They affect structures rather than functions; they produce their special effects on the sick only. The first of these two classes he called symptom-medicines because they were, as a rule, to be used in combatting symptoms and perverted functions only. The second class he called restoratives or disease-medicines, because they acted against the disease itself. It was laid down as a rule that when symptom-medicines were not given to the point of producing symptoms, they were not given in large enough doses. On the other hand, when disease-medicines were given in so large doses as to produce symptoms, the patient was getting too much. The symptom-medicines are those which are required in nearly all acute affections, as fevers, etc.; the disease-medicines were for chronic diseases.

The discussion on this paper was shared in by Drs. Roberts, Bartholow and Mary Putnam-Jacobi. Dr. Bartholow doubted the correctness of the classification and instanced cases where "symptom-medicines" did cure disease and where "disease-medicines" produced symptoms. Dr. Mary Putnam-Jacobi was the first woman who has spoken before the association. Her appearance excited much interest among the delegates, who crowded about her and listened with great attention. Dr. Putnam-Jacobi is a little woman with a pleasant face, a low voice and an entirely feminine manner. She disagreed with Dr. Thomson and made the point that the action of all drugs is molecular and hence is really structural; furthermore, that we already know what this molecular action is as far as some drugs are concerned, for example the alkaloids. It was impossible, therefore, to make any classifica-

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tion based upon the assumption that some remedies affect function, others structure.

Dr. M. O'Hara read a paper entitled "A Case of Occlusion of One or more of the Cerebral Sinuses." A young woman developed quite rapidly œdema of the right and then left side of the face, severe neuralgic pains, conjunctival ecchymosis, ocular protrusion and paralysis of the right sixth nerve. The case was carefully analyzed and the probability of thrombosis assured.

Rather more work was done upon the second day, the session opening with a paper by Dr. H. R. Hopkins, of Buffalo, N. Y., on

SPHYGMOGRAMS WITH NOTES OF AUTOPSIES.

The reader acknowledged the past deficiencies of the sphygmograph but predicted great things from its future careful study with perfected instruments. The idea at the basis of his paper was that a large number of chronic diseases have characteristic sphygmographic tracings, and by learning these the diagnosis could be helped. He showed a large number of sphygmograms, made by himself, illustrating the pulse in Bright's disease, locomotor ataxia, endarteritis, etc. A modification of Pond's sphygmograph was used. A large number of post mortem notes was read.

A paper of much practical interest was that of Dr. Robert W. Taylor, of New York, on the use of

CHRYSOPHANIC ACID IN THE TREATMENT OF SKIN DISEASES.

The author indorsed the drug as having as much specific effect in some cases as quinine. He recommended it in chronic or subacute skin affections where there is superficial infiltration and in scaly diseases, lichen, papular and scaling syphilides, some forms of eczema, indurated acne; but above all psoriasis is benefited by the remedy. The strength should be about gr. x to ℥j of simple ointment. The objections to the acid are its irritant and staining properties. It is not anti-pruritic.

One of the best papers read before the section was that by Dr. Wm. Pepper, entitled

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A FURTHER CONTRIBUTION TO THE LOCAL TREATMENT OF PULMONARY CAVITIES.

Dr. Pepper referred to the all but total uselessness of inhalations and sprays in the treatment of pulmonary cavities. In his experience it was very rare indeed to see these heal up. Any method which might help this was to be regarded with favor, therefore. He had tried the direct injection of Lugol's solution (m. x, m. xv, or ℥j to ℥j) in seventeen cases; 291 injections were made in all. The results had been encouraging and he intended to continue the practice. In several post mortems on the cases, he found that the cavities had healed up. The patients all had confidence in the treatment. He had seen no ill effects and he believed it certainly demonstrated that the injections could be made with safety. The special indications for the operation were the presence of well defined cavities with not much osseous tissue about them.

In a rambling paper by Dr. J. R. Uhler of Baltimore "On Restorative Medicines" an ingenious method of

MEASURING UREA

was described. It consists in taking two bottles, one of which just fits into the other. The smaller one is attached by a wire to the cork of the larger. In the smaller is placed the urine; in the larger a mixture of liquor sodæ chlorinatæ and salt. The one is placed carefully in the other and both are weighed. They are then shaken up and the contents of the two bottles mixed together. Chemical decomposition takes place and the nitrogen of the urine is set free. This is allowed to pass off and the two bottles are again weighed. The difference in weights represents that of the nitrogen; from which can be estimated that of the urea.

The session of the third day was opened by Dr. A. D. Rockwell of New York with a paper on

THE ELECTRICAL TREATMENT OF EXOPHTHALMIC GOITRE.

Dr. R. said that the Faradic current was of some value in this disease when applied by the method of general Faradization. The main reliance, however, must be in the galvanic current. In

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giving this the cathode is placed over the cilio-spinal center and the anode in the auriculo-maxillary fossa; the anode, after a few minutes of stable treatment, is drawn along the inner border of the sterno-cleido muscle to its lower extremity. The current is then reversed and increased in strength. Of nine cases treated this way, four completely and three partially recovered.

A very practical paper was read by Dr. L. Duncan Bulkley of New York on the

USE OF SULPHUR AND ITS COMPOUNDS IN DISEASES OF THE SKIN.

Pure sulphur is given internally in few skin diseases, but is beneficial when there is eczema of the genitals and about the anus. Sulphide of calcium is of considerable value in the more pustular forms of acne, in hordeolum, furunculosis and suppurating buboes. The drug is liable to be poor. Dose, gr. ¼, q. i. d. Dr. Bulkley had no data which enabled him to indorse the natural sulphur waters. Externally, sulphur is most potent as a destroyer of parasites (*e. g.* animal and vegetable) as those of scabies, favus, ringworm and tinea versicolor. Pure sulphurous acid is the best form for these. Sulpur baths were probably of not much more value than ordinary local applications of sulphur. The discussion that followed this paper turned largely upon the sulphide of calcium. Some asserted that it interfered with digestion. On the whole the value of the drug was indorsed.

Dr. V. P. Gibney read a paper on the "Strong Galvanic Current in the Treatment of Sciatica." By giving the current as strong as the patient could bear it for ten minutes every day for a week or two, he had entirely relieved 24 out of 32 cases.

Dr. L. Turnbull read a paper on "Hydrobromic Ether." There was not time for hearing it all, however.

THE SECTION ON SURGERY AND ANATOMY

was opened with a paper on "Spinal Extension; its Modes Means and Motives," by Dr. Benj. Lee, of Philadelphia. It embraced ideas which he had to some extent given to the public before. He showed his surgical table, by which systematic extension can be made by the patient himself.

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PHIMOSIS AS A CAUSE OF NERVOUS SYMPTOMS

was the title of a paper read by Dr. Geo. M. Beard, of New York. There were, he said, a number of nervous symptoms which were either caused or kept up by phimosis and sometimes even by adherent and redundant prepuce. Some of these symptoms are: morbid fears, flushings, persisting flushings, sweating of the hands, palpitation, muscular twitchings, etc. Sometimes phimosis exists without producing symptoms until the system gets run down. Circumcision helps to relieve the condition, but immediate or startling results are not to be expected. Out of 80 cases of neurasthemia, 31 had phimosis or adherent and redundant prepuce.

In the discussion upon the paper additional cases were related showing the effect of phimosis on the nervous system. Dr. Hard of Illinois said that he had advised circumcision in cases of insanity. This had been sometimes done merely to make an impression on the patient and had been practiced where the prepuce was not redundant.

A paper was read by Dr. John T. Hodgen, of St. Louis,

ON SECTION OF THE INFRA-ORBITAL AND INFERIOR DENTAL NERVE FOR NEURALGIA.

The speaker described a hook or elevator by which he drew out the nerve, and thus made the section further back. The full details were then given; but they have been published in part before, and need not be given here. Dr. H. had operated twenty-four times on twelve patients. All were greatly relieved; some were entirely cured. In the discussion that followed, Dr. Jas. R. Wood described his own method of operating in such cases. He cut through the walls of the antrum, and cut the nerve on the proximal side of Meckel's ganglion. That ganglion ought to be removed, he thought, in order to secure success. Even then, in the majority of cases, the disease would return.

Dr. Chas. T. Stillman, of Plainfield, N. J., read a paper on "Newly Devised Orthopedic Appliances, including the Sutor splint."

Dr. Pancoast, of Philadelphia, read by title a paper on

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CERTAIN METHODS IN SURGERY AND CONSIDERATIONS OF THE ETIOLOGY AND PATHOLOGY OF WHITE SWELLING OR SYNOVITIS OF THE JOINTS, IN REGARD TO THE PRACTICE OF EXTENSION IN TREATMENT.

He then spoke on various surgical topics. He showed samples of black silk which he preferred for sutures, because the white silk commonly contained lead salts. He described his method of amputating at the metacarpo-phalangeal articulation. He always employed the volar flap, and his success was invariably good. He showed a urethrotome; in using this, he made shallow cuts and then dilated. Twenty-one cases had been successfully treated with the new instrument. In regard to joint affections, the two points insisted on were that cartilage did not become inflamed, but that the chief seat of the disease was the synovial membrane; that the essential point in treatment was to relieve the synovial membrane, rest and not extension, and to relieve the articular cartilages. Extension might even make matters worse. Along with rest the more efficient revulsion was the hot iron.

The discussion turned upon the puncture of joints. Dr. Martin spoke of its freedom from danger. He had made 240 exploratory articular punctures in which he had purposely abstained from antiseptic precautions and had never found the slightest symptom of inflammatory reaction.

In a paper by Dr. Jas. L. Little, of New York, read on the second day on "Compound Complicated Hare-lip," several successful cases were related. The intra-maxillary bone was removed in the two instances, with the best results. In the discussion, instances of operating for hare-lip four and eight hours after birth were cited and early operations commended.

CYSTOTOMY AND CYSTITIS IN THE MALE,

was the title of an admirable paper by Dr. Robert F. Weir, of New York. The credit of originating the operation was given to Dr. Willard Parker, who announced it in 1867. Dr. Weir had collected forty-seven cases, of which thirteen died, ten deaths being due to advanced kidney disease; twenty-three were cured, seven were relieved, and four were not benefited. The operation consists in cutting into the bladder, preferably by the lateral

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incision, and in keeping the opening patent, at first with the finger daily inserted, afterwards with a tube. Dr. Weir advised removal, if possible, of enlargement of the prostate, if that existed.

Dr. Gouley, in discussing the operation, said that no patient would get well after cystotomy unless there had been a free division of the urethro-vesical orifice.

Dr. Turnbull read a paper on "Skin Grafting." During its discussion, Dr. Burchard mentioned a case in which 200 grafts had been taken from an amputated thigh three hours after its removal, and inserted into an immense ulcerated surface over the breast of a woman. A stimulus was imparted to the edge of the wound by this. Afterwards, 500 more grafts were put on the wound, with considerable benefit.

In a paper on the Treatment of Intestinal Obstruction, by Dr. W. A. Byrd, of Quincy, Ill., the following conclusions were reached: No one should be allowed to die from intestinal obstruction without at least an exploratory incision. If there is great tympanitis, the intestines should be aspirated. In cases where abdominal section is contra-indicated, an artificial anus should be formed.

THE PATHOLOGY AND TREATMENT OF SYPHILIS

was the title of a paper by Dr. F. N. Otis, read on the third day. Dr. Otis' views, as there given, have been announced before, although not as fully and exhaustively as at this time. He believes, essentially, that the virus of syphilis is not a physical entity, but an influence. This "influence" causes excessive local accumulations of leucocytes, which in turn cause the sclerosed lesions and symptoms of the constitutional disease. The object of treatment must be to get rid of this excessive cell accumulation. Small doses of mercury long continued helped this.

A paper, "On the Development of the Osseous Callus," of high scientific value, was read by Dr. H. C. Marcy, of Cambridge. He stated that there was no such thing as primary union of bone. The interest of the paper was increased by the exhibition of some beautiful microphotographs.

In a paper on "Lupus," by Dr. H. G. Piffard, of New York,

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the disease was classed among the scrofulous skin affections. He divided it into three forms: the non-ulcerative, the superficial ulcerative, and the deep ulcerative. He treated it with thorough excision and subsequent application of the actual cautery, or chloride of zinc.

A paper on "The treatment of Syphilis," by Dr. Chas. R. Drysdale, of London, Eng., contained no especially new ideas. The same may be said of some remarks by Dr. Martin on the value of his Elastic Bandage.

A paper having some novelty was that of Dr. H. T. Campbell, of Augusta, Ga., "On the Radical Cure of Inflammation by Ligation of the Vessels of Supply." The title of the paper shows the author's idea. He related seven cases of inflammations affecting the lower extremity and eight of the arm in which he had ligated vessels. The results were all satisfactory, sometimes surprisingly so.

Owing to lack of time five other papers were read by title only, and referred to the committee.

THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN

was presided over by Dr. G. M. B. Maughs, of St. Louis, in the absence of the regular Chairman, Dr. A. H. Smith. The Secretary was Dr. Robt. Battey, of Rome, Ga.

The first paper was by Dr. J. Marion Sims, of New York, on "Battey's Operation in Epileptoid Affections." Dr. S. believed that Battey's operation would soon be recognized as a legitimate one. The speaker had performed it eleven times. He now reported the results of the last four. The first was on a married woman, aged 30. She had suffered many years from dysmenorrhœa, and of late years from epileptic attacks during menstruation. She had, when examined, vaginismus, vaginitis, retroversion, stenosis of the cervical canal, and both ovaries were enlarged and tender. After the operation she was perfectly well. The second case was one of hystero-epilepsy in an unmarried female of 31. She had suffered constantly for many years from pain radiating from the pelvic organs, and from dysmenorrhœa. She also had a retroverted uterus and tender ovaries. The operation relieved her from pain, but she is still weak. The third

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case was also one of hystero-epilepsy, and the patient died, from the bromide of ethyl, as Dr. Sims thinks; from the operation, as Dr. Turnbull thinks. The fourth case was that of an unmarried female, aged 21. She had had convulsions with occasional intermissions ever since the age of 10½. The aura started from the uterus and radiated trward the ovaries. She did not lose consciousness. The operation was performed last January, and did not seem to do much good.

Dr. Sims always performed the operation by making an abdominal incision. The uterus is meanwhile held up by an elevator thrust into its cavity and, the peritoneum being opened, the ovary is seized, its pedicle ligated and the organ removed.

In the discussion that followed, the opinion was developed that an operation through the vagina was safer, but sometimes when the ovary was bound down it could not be removed that way, hence success was not so certain.

Dr. M. A. Pallen read an essay on the same subject, but discussed it more exhaustively, giving the history, etc. Dr. P. had operated four times and conceived the operation independently of Dr. Battey, but a short time later than that gentleman. He had operated three times: for epileptiform dysmenorrhœa, hystero-epilepsy and for persistent catalepsy in the insane. The second case only recovered and was somewhat improved.

The second day's session was opened with a paper by Dr. Jos. Tabor Johnson, of Washington, on the

MANAGEMENT OF THE THIRD STAGE OF ABORTION, WITH RETENTION OF PLACENTA AND MEMBRANES.

The point made in the paper was that the patient ought not to be left until the uterus was completely emptied and firmly contracted. This point was indorsed by several gentlemen who followed in discussion. Dr. Morris, of Baltimore, "speaking for the men of the past generation," said that he thought the placenta should be allowed to remain so long as no injurious effect resulted. Two other gentlemen agreed with this speaker.

Dr. Isaac E. Taylor, of New York, read a paper on "Gastro-Hysterotomy; being Remarks on and Exhibition of a Full-term Uterus, Removed by Laparotomy." The patient had a deformed

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pelvis, and had been delivered by gastrotomy five years before. In this case Dr. Taylor had first delivered the child by Cæsarean section; he had then passed two ligatures around the uterus, about an inch apart, between the cervix and the body of the uterus, where he believed there was a ductile isthmus. He then cut off the uterus between the two ligatures. The patient did well, except for an attack of phlegmasia dolens. She recovered from this; but on the twenty-seventh day died of cardiac thrombosis. Dr. Taylor believed the death had nothing to do with the operation. He spoke strongly in favor of it. Out of fifty cases so far reported, twenty-one had recovered.

Dr. T. Gaillard Thomas, of New York, read a paper entitled, "Clinical Contributions to the Subject of Removal of the Uterus, in Whole or in Part, by the Extirpation of Tumors Connected with that Organ." There are three conditions, he said, which justify removal of the uterus: malignant disease; as an addendum to Cæsarean section; and in order to render practicable the removal of tumors which take their origin in its tissues, or which, arising in the ovaries, have attachments to the uterus too close to be separated. It was of the third class of conditions that he wished to speak. He related some illustrative cases. In one the fundus, in another the body, and in the rest the whole uterus was removed. Of the seven, four recovered. The three fatal cases were all those of large, solid fibroid tumors. Of the four successful cases, one was a large, solid fibroid, one a fibro-cyst, and two were ovarian cysts, extending down into the broad ligament, and having a large amount of solid material in the walls. It was concluded that the fibro-cystic tumors whose size could be diminished by tapping, offered the best chance of success, since they allowed shorter abdominal incision.

On the third day the first paper was read by Dr. Addinell Hewson, of Philadelphia, on

THE TREATMENT OF FIBROIDS OF THE UTERUS BY DRY EARTH.

Dr. H. had been studying this subject for twelve years. He had treated fifty cases; in all of them he had had satisfactory results; in some complete cure. The material employed was a fine yellow clay, such as is used in making the best Philadelphia

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brick. This was first moistened, so that it would fit better; a layer a quarter of an inch thick was then placed around the abdomen and back, covered with a thin sheet of cotton batting, and secured by a many-tailed bandage. Almost immediate relief from pain was secured, tenderness disappeared, and great reduction in the size of the abdomen soon took place. In a case related, the size diminished one-half in three weeks. In a case that died, while under treatment, from an intercurrent affection, a large fibroma of the uterus was found undergoing cystic degeneration. Dr. Hewson thought that the action of the earth was a chemical one. Ordinary potter's clay would not do so well.

Dr. B. F. Dawson, of New York, read a "Clinical Report on a Modified Operation for Cystocele." In this operation he folds the redundant anterior vaginal wall into the bladder. The other steps were much like those of Schroeder's operation described in 1876.

Dr. Robert Battey, of Rome, Georgia, related a "Case of Still-birth, with Resuscitation After Two Hours and Five Minutes." Dr. Battey did not think a child should be regarded as dead because its heart had ceased to beat. In the present case, the child was wrapped in hot flannel, while he made inflation by the mouth.

Dr. Beverly Cole, of San Francisco, made some remarks on the preparation of sponge-tents. These called from Dr. M. A. Pallen a strong expression of disapproval of the use of sponge-tents.

THE SECTION ON OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY

has for its chairman, Dr. Lawrence Turnbull, of Philadelphia; for secretary, Dr. Eugene Smith, of Detroit. There were several excellent papers read before this section. Dr. W. H. Daly, of Pittsburg, Pennsylvania, read a paper on "A Case of Syphilitic Stenosis of the Larynx, with Fibrous Adhesive Bands of the True Vocal Cords; Tracheotomy; Rupture of the Bands; and Cure of the Stenosis by General and Local Treatment." The title of the paper indicates the character and history of the case, which was not discussed. In a paper on the "Lesions of

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the Larynx in Pulmonary Phthisis," Dr. Carl Seiler, of Philadelphia, asserted that the ulcerative process begins in the glands and not in the mucous membrane. Dr. S. did not believe that the larynx should be considered a separate local habitat of the phthisical disease.

Dr. Knapp, of New York, read a paper on "Tumors of the Lachrymal Glands; their Pathology and Treatment, with Demonstrations." A number of cases were cited. He believed that all those tumors begin as adenomatous growths; unfrequently their character becomes mixed, a considerable part being myxomatous.

In a paper read the second day by Dr. W. H. Daly, "On the Therapeutical Value of the Galvano-Cautery in Diseases of the Naso-Pharynx," the opinion was given that this form of cautery is surer and less painful than other kinds, but is more expensive and capricious. It would not probably become popular.

A paper by Dr. S. J. Jones, of Chicago, "On the Introduction of liquids into the Eustachian Tube and Middle Ear," elicited considerable discussion. Dr. J. introduces slightly saline injections into the middle ear by means of a Eustachian catheter, and believed them of value in dry, chronic, non-suppurative inflammation. Drs. Knapp, Holcombe and Pomeroy, disagreed with the reader; Drs. Ritchey, Chisholm and Noyes, of Detroit, agreed with him as to the use of these injections.

On the third day Dr. B. Joy Jeffries spoke on "Color Blindness." He said he had examined 185 of the delegates and found five color-blind.

Dr. David Hunt, of Boston, read a paper on "The Variability of the Human Eye," and ventured an opinion that myopia often was the result of embryological changes brought about by the course of development. Dr. E. Gruening, of New York, exhibited a "Magnet for the Removal of Particles of Steel and Iron from the Interior of the Eye." Dr. T. R. Pooley, of New York, read a paper on "The Detection of the Presence and Location of Pieces of Steel and Iron in the Eye, by the Indicator of a Magnetic Needle." The author formulated the following conclusions: 1st. That a steel or iron body in the eye may be detected by a suspended magnet when the body lies near its surface. 2d. The presence and position of such a foreign body may most surely be

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found by making it a magnet by induction, and then testing for it by a minute suspended magnet. 3d. The intensity of deflection of the needle is proportionate to the depth of the body. 4th. Changes of deflection of the needle indicate changes of position in the foreign body. The instrument used is a magnetized needle suspended by a silk thread.

Dr. E. S. Peck, of New York, related an interesting case of "Primary Conjunctival Lupus."

THE SECTION ON STATE MEDICINE,

as it is now called, had for chairman, Dr. Jas. F. Hibbard, of Richmond, Indiana; and for secretary, Dr. Thos. F. Wood, of Wilmington, North Carolina. The opening paper was by Dr. C. R. Drysdale, of London, England, on "Death-rate of the Rich and Poor." Dr. D. asserted that it was poor wages more than anything else which caused large death-rates among the poor. He also asserted that the death-rate among the poor should be lowered, and that it should be considered immoral for a poor man to have a large family. Papers were read by Dr. J. S. Billings, on "The National Board of Health," and by Dr. E. H. Parker, of Poughkeepsie, on "The Relations of the Medical and Legal Professions to Criminal Abortion." The latter advocated the full penalty of the law for abortionists, and urged that the prevalent idea that abortion is not a grave offense should be counteracted in every possible way. Dr. A. N. Bell read a paper on "Unsanitary Engineering," which caused considerable discussion.

On the second day a paper was read for R. C. Kedzie, of Lansing, Michigan, on "The Temperature of Living-Rooms;" and one by Dr. A. L. Carroll, of New Brighton, New York, on "The Personal Factor in the Etiology of Preventable Disease."

The third day was taken up to some extent with the discussion and passage of two resolution. The first, offered by Dr. J. S. Billings, was as follows:

"*Resolved*, That this Association approves of the plans proposed by the Superintendent of the Tenth Census for the collection of data with regard to the insane and idiots of the United States, and that it urges upon physicians that they should aid in this work, as far ar possible, by carefully replying to the schedule

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of queries on this subject which will be sent them from the Census office.

The second was an indorsement of the National Board of Health. "A Report on the Intervention of the Physician in Education," was read for Dr. D. R. J. O'Sullivan, of New York. It urged more attention to the sanitary condition of school-houses and the health of the pupils.

Dr. J. V. Quimby, of Jersey City, read a paper on "The Criminal Use of Chloroform." He stated among other things, that it had been shown by experiment that persons could be chloroformed while asleep without being awakened. Papers were read by Dr. W. H. Lathrop, of Tewkesbury, Massachusetts, on "Thoughts Regarding Alms Houses," by Dr. Antisell, of Washington, D. C.; on "Suspicions of Poisoning;" and by Dr. W. F. Thoms, of New York, "On Humane Societies."

THE SECTION ON DISEASES OF CHILDREN

was a new organization and no papers had been prepared especially for it. Very good work was done by those who took part however, and it had a fair-sized audience. It was organized with Dr. S. C. Busey, of Washington, D. C., in the chair, and Dr. Frank Woodbury, of Philadelphia, secretary. Dr. A. Jacobi, of New York, made an opening speech and advocated the claims of pediatric medicine. He made a distinction between the necessity of studying the specialities and practicing them. Alluding to the growth and encroachments of the various specialties he said: "The general practitioner will in future obtain, as the legitimate province of his practice, the male half of mankind, and very old women, and very young children, provided he will keep his hands off their eyes, ears, nervous system, lungs and heart, urinary organs, venereal diseases, nose, pharynx, larynx, skin, hair and corns." He pointed out the fact that the multiplication of specialists is due, first, to the immense progress of the science; and, secondly, to the attainment of special skill and dexterity by certain individuals, that leading them to select certain branches as their favorite practice."

Dr. S. C. Busey then read a paper on "Bright's Disease of Children Caused by Malaria. He related three cases in which children

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who had suffered some time from malarial poisoning, subsequently had Bright's disease. He did not insist positively upon their being a relation of cause and effect, but believed that the sequence should be kept in mind. Dr. Jas. L. Green reported a case of "Congenital Multiple Lymphectasia," in a male born at eight months. There was a large cystic tumor upon the posterior portion of the pelvis. On the abdominal region in front were two other smaller tumors. Two days later the fluctuating tumor was aspirated and 120 grams of fluid removed, which was clear, straw colored, specific gravity, 1007, slightly saline, and albuminous (about $\frac{1}{3}$) on boiling; nothing but a few blood corpuscles were observed under the microscope. In ten days the sac refilled to its former size. Dr. A. Jacobi now saw the case and pronounced it one of lymph angiectasis, and recommended removal of a small portion of the fluid, and injection of a small amount of iodine. On two subsequent occasions this operation was repeated, very little disturbance being produced; the slight uneasiness of the child passed away in two hours. This tumor has considerably diminished in size, but the tumors in front, upon which no treatment was attempted, have increased, and a small one has been developed upon the left hip opposite the acetabulum.

On the discussion, Dr. Jacobi said that since the tumor is now smaller than at the beginning, the tincture of iodine injections should be continued, and more frequently repeated, being careful, however, not to excite too much febrile reaction in the child. He distinguished two forms, one in connection with lymph trunks, and the other isolated. In the former the injection of iodine is the best treatment; the latter kind may be extirpated, and he had twice dissected out such isolated tumors in adults.

On the third day, Dr. A. Jacobi read the history of a case of "Congenital Atrophy of the Liver."

In speaking of the case, Dr. Jacobi also reported a case of syphilitic liver which had recovered—the only infant that he had known to survive the disease. The child is now a year old, and appears to be healthy.

In the treatment, where the evidence of syphilis appears early, a prompt mercurial impression is required, and he had followed

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Lewin's plan of giving the bichloride hypodermically, with excellent results. The salt was dissolved in water and filtered before using. In other cases, where such a rapid effect is not needed, he had followed the usual plan of mercurial inunction.

Dr. Jacobi also reported

A CASE OF SUPRAPUBIC LITHOTOMY

in a child, six years of age, which had suffered with the symptoms of stone in the bladder for a year.

The operation was performed without difficulty, under chloroform, and a medium-sized phosphatic stone removed. This was followed by persistent suppuration, which was more than would be expected simply from a mucous membrane. The case had not yet entirely recovered.

In discussing the case, Dr. Jacobi referred to recent observations upon sub-mucous gastric abscess, and inquired whether a similar condition could not exist in the bladder. These accidents of peritonitis and extensive suppuration, as a consequence of epicystotomy, may prove to be a serious bar to a method of operation for lithotomy that otherwise has much to commend it. It may be that the preliminary distention of the bladder required, may have injurious results in a bladder which is contracted, and the subject of concentric hypertrophy and chronic irritation from the presence of the stone. If the bladder be much diseased, the forced injection may of itself produce serious consequences. In the case reported, no injury or irritation of the bladder was caused in operating, beyond the simple incision.

One or two other cases were also reported to the section and discussed.

THE Faculty of Rush Medical College have changed the time allotted to their practitioners' course, and have announced that the lectures for post-graduates will be given in the month of April next year, after the annual winter session is completed.

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Domestic Correspondence.

ARTICLE VIII.

PHILADELPHIA LETTER.

Messrs Editors:—An event of much interest, not only to the profession of this city but of the country at large, is the recent capture—red handed, so to speak—of one of the chief manufacturers of bogus diplomas, the notorious "Dr." Buchanan. The credit of this successful effort to entrap a wary and experienced swindler is due to the enterprise of the *Record*, a penny daily paper of this city, the proprietors of which furnished the funds needed to set the machinery of law in motion. A reporter detailed by the proprietors for the purpose has spent several months in collecting the necessary evidence, and the account of his experience published with perhaps an excusable flourish of trumpets in his journal, furnishes much matter of interest.

Although the fact that Philadelphia has for some time been the center of the diploma trade is generally known, the causes which have favored this nefarious traffic, and the obstacles to its removal, are not, perhaps, so widely understood. It may not be amiss, therefore, to give some account of the rise and progress of some of these institutions. One of the oldest is in possession of a charter granted to the Pennsylvania Medical College, started some twenty-five or thirty years ago by a brilliant group of young men, most of whom subsequently became distinguished. After a brief but creditable career the institution came to an end during the late war and the faculty were scattered. What became of the charter at the time no one knows, but it was next found in the posession of some of the men who have since made a traffic of its reputation and have involved our reputable medical col-

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leges, particularly the time-honored University of Pennsylvania, which, owing to the similarity of title has been frequently confounded with it, in unmerited disgrace, especially among foreigners. In fact as our minister to Germany remarked in his communication on the subject a few months ago, the expressive "Philadelphia degree" is even a by-word, and forms part of the furniture of a quack in popular plays. How long ago the actual sale of degrees began is not exactly known, but it became more and more a recognized business, until the "University" dwindled gradually down to little more than an office for the printing of diplomas and the transaction of correspondence connected with the traffic. After some years two sister institutions made their appearance on the scene. The "Philadelphia University of Medicine and Surgery," and the "Eclectic College." Buchanan has been the ruling spirit of the latter. Several years ago an attempt was made by the combined authorities of the University of Pennsylvania, and the Jefferson College, to bring the offenders to justice; however, not only this but subsequent efforts came to naught, the legal proceedings seeming to mysteriously fail at some point. Emboldened by impunity the diploma sellers pushed their business in foreign countries as well as in the United States, and within the last year or so several new "diploma mills" have been started. A month or two ago, however, some check was given to the traffic by the arrest of parties connected with the "Philadelphia University of Medicine and Surgery," and about the same time stimulated by the publication of Minister White's letter from Germany, the State legislature authorized the investigation of the charters of these institutions but failed to appro priate any money for the purpose of carrying on the investigation. It was about this time that the enterprising proprietor of the *Record* took the matter in hand, and in connection with the officials of the General Government, and of the State of Pennsylvania, decoyed the diploma manufacturers into the toils of the law. The reporter who undertook the work of detective, ascertained in the first place, that in addition to the three "colleges" above mentioned, no fewer than five others were at work, two of which were also situated in or near Philadelphia. From these various institutions he managed to obtain five diplomas of M.D.,

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one degree of D.D., one of LL.D., and one of D.C.L., for the aggregate sum of two hundred and twenty-five dollars. In order to obtain these degrees various devices were employed. In one case the reporter assumed the character of a quack, printed circulars referring to his lung and liver cures, and enclosed them from Tippecanoe City, Ohio, with a letter to "Dr." Buchanan, and asking if a diploma could be procured by "writing an elaborate thesis," or by taking a three weeks' course, and expressing a willingness to "foot the bills for any risks that might be incurred." A reply from the "Dean of the Eclectic College" was soon received, and before long the correspondent was, on payment of seventy-five dollars, put in possession of no less than three diplomas. A trifling informality by which one was dated the year before the establishment of the institution granting it added to the interest. At the same time a correspondence in the name of a clergyman of Virginia was started with a view to obtaining the degree of D.D., and others. This was so successful that five diplomas, two of the M.D., one of D.C.L., one of D.D., and one of LL.D., were enclosed to a single address on payment of one hundred and forty dollars. These were captured by the United States agents, in the mails, and on the evidence thus presented, "Dr." Buchanan was arrested on the charge of using the mails for improper purposes, and was safely lodged in jail by the United States court, where he now languishes; it being apparently less easy to slip through Uncle Sam's fingers than those of our municipal and State authorities. Meanwhile, the enterprising reporter, not content with this exposure, was carrying on several other schemes for entrapping the diploma mongers, one of which is most amusing as recited by the chief actor.

It appears that among the more recently fledged institutions of learning which have been created in this city is one known as the "Philadelphia Electropathic Institution." The building occupied by this learned body is a plain, three-story house, with a small sign on the front door, which your correspondent has read on passing many times in the last fifteen years without suspecting the latent possibilities concealed behind so unpretentious an exterior. In fact, for many years there was nothing more to be seen inside than an ordinary waiting room and office filled with

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batteries. But the recent successes of Buchanan had incited the proprietors of the establishment to follow in his footsteps, and advertisements appeared in the papers offering instruction and diplomas. Under the guise of a countryman the reporter applied for instruction and attended the "full course" of the institution, comprising seven lectures, each about an hour in length, and each reiterating what had previously been said on the "Theory of Electricity." At the end of a week the "professor" said he was going out of town and that the course of lectures would now be closed. The student was provided with a work upon medical electricity and a copy of Cutter's Anatomy. One week's reading with a lecture on the "winker" muscles of the eye concluded the course, and having prepared a thesis, the student was examined, the questions being as follows: "How would you diagnose?" "How would you treat a headache?" "How would you treat a case of eruption?" "How would you treat neuralgia?" "What would you say if some one came in your office and said, 'electricity is nothing?'" The reporter's answers to these questions were so satisfactory that the professor assured him with effusion that he "had grasped the philosophy and treatment better than any student they had had," and, on payment of one hundred and thirty dollars the "right hand of fellowship" was proffered the newly fledged graduate and an elaborate diploma (given in the *Record* in fac simile), was presented him, declaring him, in sonorous latin phraseology, "In Electro-Therapeuticis Magistrem." It is estimated that the profits of this institution from the sale of diplomas must range from three to four thousand dollars a year. The law seems powerless to prevent the establishment of these institutions; all that could be done in this case when the charter was applied for a few months ago, was to reduce the power of giving degrees, so that only that of master in electricity might be granted instead of doctor, as was desired. Three or four similar institutions have applied for the power of giving degrees during the past few weeks, and had not a check been given to their proceedings by this exposure, it is likely we should have been overrun by a small host of "diploma mills" before the close of the year. The fact is that the abortive attempts to expose and punish the diploma vendors have simply

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served to advertise them as sources and this city as a center at which such degrees could be obtained. The profession of this city has been blamed for not taking more active steps to ferret out and destroy this nefarious traffic, but in extenuation it must be said that previous attempts having failed through what appeared to be the connivance of the municipal legal authorities, no new efforts could be made so long as the fountain of justice itself seemed to be poisoned and the officers of the courts, to all appearances, in league with the guilty parties. An incident may be mentioned in illustration of the impudent boldness with which these bogus diplomas were flourished under the noses of the public. In is said that when Buchanan was a candidate for same petty office in his ward, medical diplomas were freely offered among the colored population with the view of influencing that vote.

In capturing the "faculty" of the Electic Medical College recourse was had to the United States authorities as being more certain than those of the municipality or State, although some of the latter assisted. The charge upon which Buchanan was arrested was that of using the United States mails for purposes of fraud, and when the officers of the law, armed with the evidence afforded by the exterprising reporter of the *Record*, entered the "college" the "dean" was discovered surrounded by piles of signed and unsigned diplomas, the seals of the various learned institutions under his charge and a mass of correspondence bearing on the diploma traffic. Thus far no responsible bail has been offered, and Buchanan is still in jail, but what will be the final result of the case is very difficult to say. The charge under which he has been committed does not touch the character of his institution, and it is very much to be feared lest, when the penalty of this misdemeanor has been paid, the business will once more be resumed, unless advantage shall be taken of the opportunity now afforded to have the charter revoked. Among the "faculty" of the "Electic Medical College" is one name, that of Charles G. Polk, which some of your readers may remember in connection with "glycerite of kephaline," a mess concocted by this worthy and lauded by him in all the journals so long as he could obtain admission to their columns. The true character of

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the compound and its author were well shown up by Dr. Samuel R. Percy, of New York, until he became generally known, when he left the ranks of the regular profession and turned quack.

We have had two medical (or surgical) sensations since my previous letter, the audiphone and bromide of ethyl. The former of these I may have mentioned. It was much talked about for a time, and some of the daily journals contained the papers read before the County Medical Society, a species of advertisement more glaring than any heretofore practiced in this locality. Otologists, I believe, united in speaking lightly of the advantages of the audiphone, but possibly the objects of its promotors were attained in the temporary notoriety gained by its general advertisement in connection with their names. At any rate it was soon dropped. Bromide of ethyl has also, it seems, had its day. Brought forward, in part, by the persons by whom the audiphone had been *exploited*, it has already been the cause of one death in the hands of a prominent surgeon of the city, and seems likely to become very unpopular. PHILA.

IF pepsin is dissolved or suspended in any fluid of neutral reaction its power of digestion is interfered with; that means, it cannot show its full strength. If, however, the solution is made alkaline, the pepsin at once becomes inert—it loses all power to change albumen into pepton. The proper relation between some kind of acid—hydrochloric or lactic to be preferred—and the pepsin is an essential condition to bring out its digestive power, and, in therapeutics, the good effects of pepsin. Not only as an exception, but we well might say as a rule, we find in looking over prescriptions which contain more or less of pepsin, that the practitioner tries his best to combine pepsin with a variety of vegetable or mineral substances in such a manner that it cannot show its digestive power at all. Nothing is more common than to see pepsin combined with subcarbonate or subnitrate of bismuth, and yet, it can easily be shown that the addition of even the latter salt to artificial gastric juice will interfere with the digestion of egg albumen. Bicarbonate of soda, the different preparations of iron, strong alcoholic tinctures, and elixirs are incompatible with pepsin.—*Kretzschmar.*

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Reviews and Book Notices.

ARTICLE IX.—THE TREATMENT OF PUERPERAL SEPTICEMIA BY INTRA-UTERINE INJECTIONS.—By Edward W. Jenks, M.D., LL.D., Chicago, Ill. Reprint from Vol. IV, Gynæcological Transactions, 1880.

This is a paper presented to the American Gynæcological Society by the author, on a very important subject. The reprint before us is a beautifully printed pamphlet of twenty-four pages. The author first gives a full, but concise and interesting history of the practice of introducing remedial substances into the cavity of the uterus for the prevention or cure of septicemia, stating impartially the opinions for and against the practice, with the dangers that have been found to accompany it. He then details the results of his own experience, illustrated by an abstract of three cases in which intra-uterine injections were used with the most marked benefit. His conclusions in reference to the whole subject are clearly and concisely stated in the following propositions which constitute the closing paragraphs of the paper:

1. In its wide-spreading relations to other causes of puerperal diseases, and of death, septicemia stands pre-eminent, for, although puerperal diseases are designated by different names, many lesions of the circulatory, respiratory, and nervous systems are the direct or indirect results of blood poisoning; therefore it is obviously the plain duty of every obstetrician to prevent the absorption of any decomposing materials from the uterus.

2. The objections, which have been made to intra-uterine injections in the treatment of non-puerperal uterine diseases, are not applicable to their use for the prophylaxis or treatment of puerperal septicemia.

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3. The number of deaths attributed to intra-uterine injections have, in the majority of instances, occurred when they were used for other purposes than washing out the puerperal uterus with antiseptic fluid.

4. When a death has taken place on account of washing out the uterine cavity after child-birth with a simple antiseptic wash the fatal result has not been in consequence of the injection itself, but from the improper manner of giving it.

5. By the observance of proper precautions on the part of obstetricians this mode of treatment is rendered harmless. To secure entire immunity from danger certain requisites are important, as follows: (*a*) The mouth and neck of the uterus should be well dilated, and a free outlet insured for the injected fluid. (*b*) Air must not be admitted with the injection. (*c*) The fluid should be injected slowly and without much force. (*d*) The fluid used ought not to be of a lower temperature than the normal temperature of the body. (*e*) Powerful astringents should under no circumstances be injected within the uterus, as they are liable to produce contraction of the os and cervix, and thus aid in forcing the injected fluid into the tubes or sinuses.

6. The administration of these injections ought never to be intrusted to a nurse or inexperienced assistant, but should invariably be given by the accoucheur himself, with as much carefulness and attention to every detail as he would in the performance of a surgical operation.

7. Intra-uterine injections should be used invariably succeeding child-birth, if there exist any of the following conditions: (*a*) If there is premature cessation of the lochia with any constitutional disturbance. (*b*) If there exists a purulent or fetid uterine discharge. (*c*) Whenever there is any abnormality of the lochia, or offensive uterine discharge attended by elevation of temperature, or increased frequency of pulse. (*d*) When there are good reasons for believing that the uterus contains fragments of placenta, or is imperfectly contracted, and contains clots or any animal substance.

8, Intra-uterine injections should be more generally used in the prophylaxis and treatment of puerperal diseases, than has heretofore been customary, for the following reasons: (*a*) If

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properly administered to puerperal women they are devoid of danger and capable of accomplishing results for good which cannot be attained by any other means. (*b*) There are no other modes of treatment or remedial agents which act as speedily in lowering the high temperature of puerperal septicemia, or accomplish better results in certain inflammatory conditions of the uterus peculiar to the puerperal state. (*c*) They are peculiarly serviceable in causing the expulsion of clots, or fragments of placenta, and aid in a marked manner in facilitating the rapid involution of the uterus. (*d*) They have diminished in a remarkable manner the number of deaths, which to all appearance were inevitable from puerperal poisoning—far surpassing in this particular any other known means of treatment.

ARTICLE X.—PAY HOSPITALS AND PAYING WARDS THROUGHOUT THE WORLD. Facts in support of a re-arrangement of the English System of Medical Relief. By Henry C. Burdett, London: J. & A. Churchill. 1879.

Although the author, having a particular object in view, addressed his book specially to the people of England, we have no hesitation to recommend it as very interesting reading to every physician of this country, to every director, trustee or committee of hospital management; in short, to every person who is interested in the proper dispensation of medical charity. The author has evidently devoted much time to his work; he has familiarized himself with the system of hospital management, not only in Great Britain and Ireland, but throughout the world. And, judging by the excellent description of the American systems, we infer he has mastered the details of his great subject with perfect success. The appearance of the book is very opportune at this time, when the medical profession and medical press throughout the land are discussing the great wrongs perpetrated upon our profession by the abuse of medical charity. Those who incline to the belief that the magnitude of these abuses is greatly exaggerated, will find in the statistics drawn from London hospitals the most convincing proofs of an appalling enormity of frauds which may be and are committed if the door of charity is opened indiscriminately to every applicant. Those who try to

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make the faculties of medical colleges parties of these frauds by acquiescence and encouragement, will probably take their charges into reconsideration after reading this book, which shows conclusively that the abuses reach the same percentage where medical charity is not controlled by medical schools. To all who read the book attentively it must become apparent that these abuses are an inherent feature of all institutions for free medical relief; and that they spring from one common source, to-wit: from that in-born desire of all common people to get everything as cheaply as possible; which desire creates a great aversion to paying for anything they may get free of charge. That London tradesman referred to upon page 153 of the book, presented the whole truth in a nutshell by asserting "that he always gets the best medical advice for his family and himself for a shilling, instead of a guinea. He declared, and indeed boasted, that any one so minded, can get the opinion of the majority of the most eminent consultants in London, with less trouble, and in less time, by paying one shilling to the hospital porter, than by going to their private houses." Change such characters, if you wish to strike at the root of the evil!

The object of the author is "to give facts, and facts only, and to form no conclusion, to urge no scheme of reform which has has not the merit to command success, after a fair trial." And after a careful review of the various systems of hospital administration of this country and Europe; after a fair exposition of their merits and faults, he comes to the conclusion to advocate to his countrymen the adoption of what he is pleased to call "the American plan;" i. e. the system of pay-beds and pay-wards in the general hospitals. "In American hospitals this system is successfully carried out by the resident medical officer or superintendent, who decides, at the time of admission, what a patient should be charged for board. All that he has to guide him in his decision is the evidence produced by the patient, and a scale of payments fixed by the governors. The superintendent cannot fix a lower rate of payments than the lowest amounts on the scale fixed by the trustees. All new cases, on the day after admission, are referred to the visiting committee, who reserve to themselves the right of refusing aid to any person who may ap-

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ply for relief. This committee regulates the various grades of payment for board, medical attendance, medicine, charges in case of death or removal, and all other expenses incurred by the patient." * * * "If all the large hospitals will give the system a fair trial; if they will each appoint a visiting committee of active, intelligent governors, on the American models, and if they will decide the proportion of free to pay beds at each institution, the thing will be accomplished."

But on one point the author justly insists: "Wherever the pay system is introduced, there must provision be made for the payment, in whole or in part, of the medical officers who attend to the paying patients. No arrangements can be considered satisfactory which do not make provision for the proper payment of the medical staff." But when will this principle be adopted or carried out by the hospital boards? F. C. H.

ARTICLE XI.—THE LAWS OF THERAPEUTICS OR THE SCIENCE AND ART OF MEDICINE. By Joseph Kidd, M.D. "Magna est veritas et prevalebit."

This is a book of two hundred pages, the title of which reads well. One would suppose that at last we had found the one thing desired—something exact—"The Laws of Therapeutics, etc., etc." How sadly we are disappointed the following brief review will indicate:

At page fifty-four ends the first chapter, which is historical. Nothing of importance is introduced and Renouard or Dunglison state all the facts given without the numerous allusions to the "old regime," "exploded theories" and the stereotype inuendoes at the horrors of the "old orthodox distinctive medicine with its rich ornamentations of bleeding, leeching, starving, tartar-emetic and laxatives."

A few new authors are mentioned to bring the history to date, but none with quite the affection, barring a few mistakes which the author corrects, as the "illustrious Hahnemann." Very tenderly does our author refer to the far-seeing eye of genius and the improvements and modifications in the practice of medicine produced by the sharp exclusive teaching of the founder of Homœopathy.

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The second chapter on physiology; the third on pathology; and the fourth on the natural history of disease, are brief, and our author rushes forward to the consideration of "Therapeutics and Ars Medica."

The effort is made to demonstrate that Hahnemann was a great and illustrious man in that he discovered the law of *similars*—that he was also a very foolish man, full of mistakes, prejudices and false theories in that he indulged in speculations in regard to *psora* and *infinitessimal doses* of medicine.

Dr. Kidd says at p. 35, et seq.: "Twenty-seven years ago I saw that the essential truth of Hahnemann's law was totally independent of his speculations about dynamization. Adopting with great delight the law of 'similia similibus curantur' as the the chief, though not the only, foundation for therapeutics, I learnt for myself that Hahnemann's 'sober' teaching, the use of the pure, undiluted tinctures, was a far better guide to heal the sick than Hahnemann 'drunk' with mysticism, calling for the exclusive use of infinitesimal doses. The latter I gradually cast aside *in toto* as untrustworthy and unjust to the sick, whose diseases too often remained stationary under treatment by globules but were most effectually and quickly cured by tangible doses of the same medicines which failed to cure when given in infinitesimal doses."

A great part of the book consists in the recital of cases, which are usually prefaced by a history similar to the following: "Capt. S., aged 59, bilious temperament, etc. etc.," given up as hopeless by the *ordinary physicians in the country*. He was with difficulty removed to his mother-in-law's * * * and placed under my care." "Miss ——, aged 26, of a feeble constitution, etc., etc., was attacked with a severe pain across the lumbar region. Anasarca came on in June, with great prostration of strength. Under *ordinary allopathic* treatment she became gradually worse, when she was placed under my care." Guided by this unerring law these patients usually make most remarkable recoveries.

Reiterating the hackneyed expressions in regard to the "partizan spirit of cliques" and the "blunders and bigotry of the old school," the author proceeded to give the latest and most scientific treatment of disease as practiced by the larger number of

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the most eminent men in that school. He is, in many respects, a *modern* homœopathist.

Many of the cases are interesting and no doubt valuable, but the book is written in bad taste and will hardly add anything to the reputation of the author, whatever that may hitherto have been. The publishers have done their work well. C W. E.

ARTICLE XII;—ENGLISH HEALTH PRIMERS. American Edition. New York: D. Appleton & Co.

The object of these little books is to disseminate among all classes trustworthy information regarding the conditions and care of health. They are brief, simple and elementary in statement; and each primer is written by a gentleman specially competent to treat his subject. The series deals with hygienic subjects that are of vital importance to everybody, like the following: "Exercise and Training;" "Alcohol: Its Use and Abuse;" "The Home and its Surroundings;" "Premature Death;" "The Skin and its Troubles;" and other topics of equal interest. To bring these little volumes within the reach of everybody who has a few cents to spend and wishes to spend them most profitably, the publishers have put the price at the remarbably low figure of 50 cents per volume.

ARTICLE XIII.—A MANUAL OF AUSCULTATION AND PERCUSSION, EMBRACING THE PHYSICAL DIAGNOSIS OF DISEASES OF THE LUNGS AND HEART AND OF THORACIC ANEURISMS. By Austin Flint, M.D., Professor of the Principles and Practice of Medicine in the Bellevue Hospital Medical College. Second Edition. Henry C. Lea, 1880. Chicago: Jansen, McClurg & Co.

The first edition of this manual was reviewed in these pages a few months ago and what was then said in its commendation is equally applicable to the present volume, which differs very little from the former. The author's name is all that is necessary to recommend this work to the profession of this country.

E. F. I.

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Editorial.

AMERICAN MEDICAL ASSOCIATION.

In another part of this number of the JOURNAL AND EXAMINER will be found a very full and excellent report of the proceedings of the recent meeting of the American Medical Association, in the city of New York. It appears to have been a very full, harmonious and interesting meeting. The only objections we have seen or heard concerning it, arose from a mistake on the part of the Committee of Registration, in providing inadequate accommodations for the prompt registration of members, and from a serious neglect to pay proper attention to the by-laws and regulations concerning the arrangement of papers and the preparation of a proper programme for the whole meeting, and the proper examination and disposal of the papers in the several sections. It is one of the curious things in human experience to note the frequency with which men selected expressly to perform certain official duties which are plainly set forth in constitutions and by-laws, fully accessible to them, go about the work assigned to them without taking the slightest pains to read even such by-laws as are particularly designed to guide their own action. For instance, the by-laws of the Association were so changed two years since as to require all persons proposing to present reports or read papers either in the general meetings or in the sections, to send such papers, or abstracts of the same, to the chairman of the Committee of Arrangements, at least one month before the meeting of the association, expressly for the purpose of enabling such committee to examine and arrange the same and make up a full programme for the annual meeting. Yet, entirely overlooking this plain provision, the committee in New York took pains to give special notice through the medical journals that all reports and

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papers must be sent to the officers of the several sections, scattered throughout the Union, at the very time that they should have been sent to the committee in New York.

Of course they had no opportunity to make up and print a full progrramme, to be given each member when he registered his name, as the by-laws intend shall be done. We hope the Committee of Arrangements for the next meeeting, in Richmond, will at least read the by-laws on this subject, as published in the *Transactions* for 1879. In regard to the proper disposal of papers in the several sctions, the by-laws and ordinances, published in the *Transactions* every year for the last dozen years, give specific and plain directions. First, they positively prohibit the reference of any paper to the Publication Committee until it has been actually read and considered in the section, or by a sub-committee appointed by the section for that purpose.

Second, they require all papers read in the sections to be placed in one of three classes, namely, such as contain the results of *original* experiments and investigations of value; such as contain so complete a résumé of what is known on a subject of importance that it leads to the establishment of practical conclusions of real value; and such as contain more or less matter of importance, of an isolated or fragmentary character. Only papers belonging to the two first classes are allowed to be referred to the Committee of Publication, while those of the third class are to be referred back to their authors with permission to publish them in any medical periodical they may choose.

The rules further provide that any paper, either from its length or from want of time, which cannot be read and properly considered by the section, must be referred to a sub-committee of the section, with thirty days for examination and a report to the Committee of Publication.

It is thus seen, that if the officers of sections who have a whole year in which to learn the regulations of the Association, before they are called on to act, would give even a very moderate attention to the rules printed in every volume of *Transactions*, there could be no such thing as reading papers by their titles and referring them blindly for publication in the *Transactions*, as was done at the recent meeting, and has been often done before.

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We have alluded to these existing regulations because some of our cotemporaries are calling for *better* regulations to cure the evils complained of; whereas, the fault is not in the *regulations*, but in the neglect to enforce them. We suggest that the best way to remedy the evils complained of, and to render the working of the sections more efficient and valuable every way, would be to make the secretary of each section a permanent officer instead of an annual one. Let a good, firm and enterprising member hold the office of secretary from year to year, and having once learned the regulations and modes of work, he would easily keep all proper rules before the meetings and secure their observance, much to the pleasure and profit of all parties. D.

MEDICAL EDUCATION.—THE NORTHWEST STILL IN THE LEAD.

While the medical department of Harvard has been simply giving notice of an intention to add a *fourth year* to the period of medical study at a future time, which, however, was to be optional with the student, whether he should take it or not, the new St. Paul Medical College, Medical Department of Hamline University, boldly announces its adoption of a full graded course extending over *four years*, a full compliance with which is made obligatory upon all candidates for graduation. We quote from the annual announcement for 1880–81, as follows: "Instruction is given by lectures, recitations, and clinical teaching, distributed throughout the academic year, which commences on the first Tuesday in October and closes on the last Saturday in May, with a recess of ten days at Christmas.

"The course of study has been enlarged and extends over *fovr years*, and the examinations for a degree are divided into *four*, one to be held at the close of each year.

"All examinations, both in the regular and adjunct branches, must be passed at sometime previous to receiving the diploma.

"An examination on entrance, in the higher English branches is required."

Will the medical press of the whole country take as much pains to notice the bold and positive stand taken by the young school in Minnesota, as it has the simple declaration on the part of Harvard of an intention to do something in the future?

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ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, July 5 and 19.
West Chicago Medical Society—Mondays, July 12 and 26.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde; 3 p. m., Medical, by Dr. Bridge.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof Jones.
Rush Medical College—3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLI.—AUGUST, 1880.—NO. 2.

Original Communications.

ARTICLE I.

ON CHANCRE OF THE MEATUS AND URETHRA IN THE MALE.

By JAMES NEVINS HYDE, M.D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago.

The anatomical and physiological objections to the location of the initial lesion of syphilis fairly within the canal of the male urethra, are obvious. While, with some individuals, the external orifice of that canal is capable of admitting the extremity of the little finger, it is in the majority of men far less capacious. Whether, however, that orifice be above or below the average size, the canal itself is plainly in all cases planned only to convey fluids in one direction, viz., from within outward. The "set" of every follicle and duct is evidently opposed to a current in the reverse direction. When in a normal state, it is traversed by the outgoing urinary stream with far greater ease than it is penetrated by the most skillfully propelled fluid intended as an injection. Every surgeon knows that a filiform bougie which refuses to enter a tight stricture approached by the face, when entered from

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behind through a fistulous sinus will often slip through the coarctation, from behind forward, with perfect readiness, occasionally without the knowledge of the operator. The urethra, as Sir Henry Thompson has well shown, is not a tube, but a long closed valve, open only when distended by natural or artificial measures. That this valve should open naturally to receive infectious secretions and thus become the seat of chancre, seems in the highest degreee improbable.

This a priori improbability, founded upon the nature and office of the valve, can not be safely ignored in the study of doubtful cases. The laws by which the body is regulated in health, are really formulated by ourselves from averages of observation, and the laws established regarding disease, are in the same measure genuine and trustworthy. The exceptions may be, according to their character, rare, curious, valuable, interesting or wholly unimportant.

Now since the day when Hunter's error was replaced with a clear recognition of the distinction between syphilis and gonorrhœa, few skillful and conscientious physicians have treated a genital discharge, incurred during suspicious intercourse, without a mental query as to the possibility of the existence of a lesion of syphilis in the urethra. That vulgar dishonesty or ignorance, which, confusing the symptoms of the two disorders, serves only to alarm the patient affected with clap by picturing to him its remote injurious influences upon the system at large, need not be here considered. In how many instances has the really conscientious practitioner, carefully inspecting the purulent discharge from the urethral orifice, and the small portion of the membrane of the canal which can be exposed by a separation of the labia, hesitated before answering the inevitable question of the patient, "Doctor, has this any connection with syphilis?"

The interest attaching to this subject seems to me to belong chiefly to those primary lesions of syphilis, which lie entirely within the urethral orifice, and which are therefore either invisible without the aid of endoscopy, or recognized with difficulty and imperfectly by the unaided eye. Under the title, "urethral chancre," or, "chancre of the urethra," several writers have included, not merely the lesions just mentioned, but those also

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located upon or near the urethral orifice, involving in whole or part, the rim of the canal, characterized by induration, discharge, and, occasionally by orificial stenosis after cicatrization. But in this last-mentioned class of cases, the syphilitic sore is evident, easily recognized by the naked eye, and accompanied by symptoms which only great inexperience or gross carelessness could attribute to a blennorrhagic affection.

From this failure to distinguish between the two varieties as to location described above, has arisen a misapprehension regarding the frequency of occurrence of the lesion. "Chancres of the urethra," say Bumstead and Taylor in their recently published treatise,* "are more frequent than is commonly supposed, and much more common than the chancroid in this locality." This statement is accurate in the sense in which the term, "chancres of the urethra" is employed by our authors, for they include under the designation, chancres of the meatus. In any other sense, the statement is far from being true. Of those lesions which are strictly intra-urethral, either invisible or but very imperfectly visible to the eye unaided by the endoscope, it can be properly said that they are of much less frequent occurence than is commonly supposed. These are they which awaken the anxiety of the physician and the alarm of the patient, in many cases where the diagnosis of gonorrhœa is attended with some doubt. I shall attempt to relieve the one and the other in the pages which follow.

During the last eighteen years, I have had the opportunity of observing, both in private and hospital practice, several thousand cases of primary syphilis, and of the entire number but two have been recognized as unquestioned instances of an initial sclerosis situated entirely within the urethral canal. In his valuable and compendious handbook of venereal disease,† my friend, Dr. Keyes, states that only two similar cases have been observed by him, one of these through the endoscope.

Mr. Henry Lee remarks that "an indurated sore very rarely exists within the urethra although the syphilitic poison must be often conveyed there. On the lips of the urethra it not

* The Pathology and Treatment of Venereal Diseases, Phila. 1879, p. 471.
† New York, 1880, p. 89.

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unfrequently occurs, but in the whole course of my experience I have never known it to originate further back than a quarter of an inch from the orifice: and in the great majority of cases, if it affects the urethra at all, it spreads to it from without." (Lectures on Syphilis, etc., Phil., 1875, p. 63.) A brief record of the essential features in my cases is given below.

Case 1. B—, a florid gentleman, 50 years of age, and well nourished, supporting both wife and mistress, had consulted me frequently for progenital herpes. On the 15th of Aug. 1879, five days after intercourse with his mistress, he presented himself with a circlet of herpetic vesicles surmounting the corona glandis, having the appearances noted in his previous attacks. They disappeared as usual after the part was properly protected and washed for a few days with an astringent and sedative lotion. On the first of the next month, he returned for examination, and at this time his vesicles were all healed. But I found an indurated gland in the right groin, and a pleiad similarly involved on the other side. There was no induration of any portion of the mucous membrane lining the preputial sac, and it presented a normal appearance, as did also the membrane of the canal which was visible when the meatus urinarius was exposed by separating the labia. There was, however, a slight, very slight, discharge of mucoid matter from this orifice, and a mild degree of subjective discomfort.

On seizing the glans vertically between the thumb and the finger, and pressing gently upon it, from before backward while the organ was in the pendulous position, the sensation produced was suggestive of a short section of the stem of a common clay pipe set in the substance of the glans where it is tunneled by the urethra. This was evidently produced by a dense, resilient, well localized neoplasm, recognizable with perfect ease by the touch alone, and neither by the discharge which it occasioned nor by other concomitant symptoms, liable to be confounded with a gonorrhœal affection.

Endoscopic examination, made in the manner described below, revealed the mucous lining of the fossa navicularis in a thickened, and infiltrated condition, while a light-greyish-hued, secreting, linear abrasion, at the depth of one and one-half centimeters,

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(¾ inch), itself about five millimeters in length (¼ inch), and parallel to the axis of the canal, could be recognized with great distinctness in the right wall. When its secretion was carefully wiped away, the latter was seen to proceed from a superficial loss of substance on the right side of the canal, having the dimensions given above. It was clear that the induration lay beneath this erosion and that the latter was in intimate connection with it, extending beyond its borders in every direction. The color of the urethral membrane in no way suggested the intense redness of acute blennorraghia. On pressure there was evoked a very slight tenderness. In short the pronounced symptoms of the case were the induration, which was very clear to the touch without the aid of endoscopy, and the coincident adenopathy. Only the grossest carelessness could have served to misinterpret the meaning of these significant features.

The abrasion having been dressed with powdered iodoform applied on a wisp of cotton with a small probe, the indurated mass did not fail to disappear gradually, the patient meantime being brought under the influence of small doses of the protiodide of mercury. Within five weeks a typical macular syphiloderm appeared over the skin of the belly and chest, very slightly evident upon the face. This yielded promptly to fumigations with the vapor of calomel and cinnabar; and the subsequent history of the patient has been the common one, of crops of mucous patches appearing at intervals on the mucous membrane of the mouth and especially of the tongue, the latter influenced doubtless by the habits of the patient as regards tobacco.

Soon after the diagnosis in this case was established, I had the opportunity of "confrontation" with the mistress from whom the disease has been presumably acquired. She admitted to me, in private, unfaithfulness to her lover, and exhibited normal external genitalia. But pressure extruded a sanguineous and purulent discharge from the contracted os of a virgin uterus, which probably issued from a secondary lesion situated on the wall of the neck, as she had also post-cervical adenopathy, faucial hyperæmia with sequelæ of old ulceration, and two typical gummata over the left olecranon. She stated that the coitus, suspected to have been the occasion of the trouble, had been

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accomplished with considerable violence; that she had not been feeling well for two weeks prior to that date; and that the act had been followed by a slight bloody discharge from the vagina which both parties had noticed. Beneath the rouge of her artificially reddened cheeks, a distinct pallor existed. Her case was one of those not rarely seen in women, where the symptoms of the disease pass unnoticed for a variable period, and are excited to activity by various depressing causes. She was placed upon specific treatment and her symptoms were succeeded by those of fair health in the course of two months. The relation between the parties was ended by the discovery of the facts.

CASE II. G., æt. twenty-four, a thin, nervous and cachectic looking youth, came to me in February, 1880, by the advice of a colleague, for the relief of his symptoms. He had been leading a dissolute life, indulging with many women, and could give no details as to the length of time during which he had suffered from venereal disease, except that he thought it was "several weeks." On examination his skin was seen to be quite generally covered with a classical macular syphiloderm; there was post-cervical, and inguinal adenopathy, pustules of the hairy scalp, mucous patches of the mouth and lips, and moderate alopecia. When I examined for the seat of the primary lesion, I was surprised to find that the entire mucous surface of the glans was desquamating, though apart from the rolling off in minute flakes of the outer layer of epithelium, there was no evident lesion, nor trace of any such having previously existed. As soon, however, as the glans was seized with the thumb and fingers, in the manner described above, it became clear that a large mass of dense induration lay deeply imbedded within its substance. The dry, thickened and toughened feel of the entire extremity of the organ was peculiar, and its appearance suggested at first sight, the diphtheroid features which certain primary lesions of this part occasionally exhibit. The real character of the sclerosis was, however, easily determined when examined with a little care. The induration suggested the feeling of a No. 17 F. sound inserted in the urethra to the extent of a few centimeters and the consequent thickening was such that the lips of the urethra were stiffened by reason of loss of their natural elasticity, and were

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penetrated with some little difficulty by the tube of the endoscope. This once inserted, there became visible a peculiar bloodless, whitish, cicatriform condition of the lining membrane, possibly brought about in part by the pressure upon the infiltrated walls by the encircled tube. It was evident that, in this case also, the neoplasm was submucous. At one point in the roof, about two centimeters (three-fourths of an inch) from the urinary orifice, was a large-pin-head-sized, slightly elevated granulation, of much lighter color than the similar granulations commonly seen upon the free mucous surfaces of the external genitals. In this case, the discharge was so slight as to scarcely awaken the apprehension of the patient, who, it may be said, however, was one of those who exhibit a not unusual indifference to the diseased state of the external generative organs.

Here was clearly an instance of the so-called "transformation of chancre in situ," occurring in the urethra, the primary lesion having been transformed into one of the secondary stage, co-existing thus with the outbreak of a cutaneous exanthem and other manifestations of systemic trouble. The occurrence of the singular desquamation upon the glans, was explainable by supposing that a degree of inflammation had complicated the sclerosis, and that the extension of this latter to the covering of the glans had brought about the destruction of its most external epithelial layer.

The local and constitutional symptoms in this case yielded gradually though somewhat slowly to appropriate treatment, begun by the fumigations described above, and continued by the administration of the biniodide of mercury by the stomach. The only local treatment necessary was an inunction of the surface of the glans with carbolized oil, after washing with soap and water, and one or two pencilings of the vegetating urethral surface with a twenty per cent. solution of nitrate of silver. All three patients named above are still undergoing a gentle mercurial course, and all are free from symptoms of active manifestation of the diathesis with the single exception of the male patient in case No. 1, who is still annoyed at times by the occurrence of patches on the dorsum of the tongue.

It may be well to remark in passing, though the matter is not

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strictly germane to the subject under consideration, that upon repeated and apparently trivial attacks of preputial herpes, a guarded prognosis should always be pronounced in the case of individuals who admit that they have indulged in illegitimate sexual relations. Every one knows that an attack of herpes, pure and simple, is never followed by syphilis, but many are apt to forget that an herpetic lesion of the prepuce or glans, is an admirable portal for the infecting virus of both forms of contagious venereal sore. Men subject to this annoyance, leading irregular lives, are many times lulled into a false sense of security by discovering upon their persons a familiar local disorder, which up to date, has always proved benign in character, but which, after inoculation, or even when the vesicle is merely an expression of protest at the point where syphilitic inoculation has already occurred but not yet declared itself, does not fail afterward to exhibit a characteristic induration, and to be followed by the general symptoms of lues.

For the endoscopic examination of the pendulous portion of the male urethra, a simpler apparatus than the endoscope of Désormeaux has been used by me with advantage. It consists merely of the ordinary straight endoscopic tube, with a Miot lamp, by which illumination is secured. At times, it is well to directly examine the lining membrane through the aperture of an ophthalmoscopic mirror, the light being reflected from the Miot lamp or from a gas jet at the level of the eye, the patient being in the erect position before the operator. When for any reason, it is desirable to make examinations in the recumbent position, the Miot lamp can be held at any angle, and the rays directed so as to fall into the tube by the side of the head of him who inspects the canal.

An important point to note, in the examination of the canal of patients who are affected with chronic or subacute urethral discharges, is the frequent discovery upon the floor of the fossa, of something which looks at first sight, very like an ulcer. The surgeon who has not had experience in this matter, is exceedingly apt to mistake for an ulcer, syphilitic or simple, the appearance presented at this point. It is due merely to the fact that the eye is habituated to representations of the urethra after vertical sec-

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tion, and the post-mortem view of the floor of the canal, when the urethra is laid flat upon a plane surface, gives no clue to the tinted picture presented during life. In the large number of men who have even a slight urethral weeping, there seems to be a tendency of the secretion to accumulate in the little pocket on the floor of the fossa, which becomes visible when the endoscope is introduced at this point. Here a linear, slightly reddened, or yellowish longitudinal furrow is evident, covered with a more or less opaline scanty mucus, which can be removed by a very simple manipulation, when the supposititious "ulcer" is at once seen to be the normal reddish sulcus which, even in entirely healthy individuals, exhibits a color somewhat heightened above that of the urethral walls. The following case illustrates the point to which reference is here made:

CASE III. Dr. W., aet. forty-two, married, narrow-chested and poorly-nourished, with a history of incipient tuberculosis, contracted a urethral discharge in Paris, after coitus with a suspicious party. The discharge appeared within six days after exposure, and, being then in London, the patient consulted a British practitioner of repute, who pronounced the case one of simple gonorrhœa, and prescribed accordingly. Dr. W. then returned by transatlantic steamer to this country, and while on his homeward voyage, his clap improved perceptibly. Some slight gleety discharge however remaining, he consulted a professional gentleman of acknowledged skill in the city of New York, who at once proceeded to make an endoscopic examination of the urethra. The physician-patient was a man of intelligence, and was proportionately shocked to learn, from the lips of his colleague, that he was affected with a urethral chancre. The operator with the tube was not only so confident of the existence of this primary lesion of syphilis, but so charmed by its exceptionally pronounced features, that he expressed regret because he had not an arrangement of mirrors by which the patient might, auto-endoscopically, inspect for himself the evidences of his dreaded disease. This practitioner was as confident as he was conscientious in his convictions, and at once placed the patient upon a mercurial course, medicating the urethral lesion with

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iodoform in powder, and on wax bougies made expressly for the purpose.

In the course of two weeks, the patient came to this city and consulted me, giving a full history of his case, and exhibiting in his general facies and condition, the evidences of the mental trouble which his supposed disorder had occasioned, as well as the effect upon his tuberculous diathesis of the mercurial course to which he had been subjected.

I discovered upon examination, that he had all the symptoms of a simple gleet, without stricture, and on introducing the endoscopic tube, could discover absolutely no lesion nor induration save the little pseudo-ulcer, which can always be detected in similar cases, upon the floor of the fossa, as has been pointed out above. In no respect did this differ from the same furrow-like chink, as seen in a dozen patients examined immediately before. At this date too, there was no adenopathy of any part of the body, and the catarrhal symptoms from which the doctor suffered, were those to which he had been long accustomed before his recent escapade. With considerable hesitation, he consented to accept my verdict in his case, a verdict to which he has since acceded with very great heartiness, as his gleet completely disappeared under appropriate treatment, and his general health manifestly improved soon after his mercurial medication was discontinued. Four months have since passed, and he has yet to exhibit the first symptom of syphilis.

Every physician knows that the muco-cutaneous tissues at the orifices of the outlets of the body are more sensitive to the action of external irritants than those which are situated either more deeply or externally. Thus, the nitrate of silver will produce more disagreeable effects upon the angles of the mouth, when applied there, than either upon the buccal membrane or the skin of the lip. This sensitiveness is clearly to be recognized in the case of visible sores of the meatus of the urethra. They are readily irritated by the urine, a fact which does not seem to be at all significant of deeper urethral lesions, and this irritability is apt to result in phagedena, a complication which is well known to be more common in the case of the chancroid than in primary syphilitic lesions. The resulting loss of tissue, occurring as it

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does at the apex of the cone of the glans penis, produces a striking and permanent deformity, giving the body a peculiar square-shaped appearance, and often interfering with the smoothness of the urinary jet, as it is projected from the body in the act of micturition. I append a brief record of two of many cases of chancre of the meatus observed by myself, in illustration of the facts set forth above:

Case IV.—S., a Jewish youth, 19 years of age, and circumcised duly in the ritual of his race, consulted me in March of 1877, with a small-penny-sized, ragged looking ulcer, on the right half of the meatus, involving equally the urethral and penile surfaces. It was irregularly oval in shape, its base indurated, its floor covered with a pultaceous slough, whose removal showed beneath a granular and livid surface. It was exquisitely sensitive, aggravated by each discharge of urine, and was evidently serpiginous in the direction of the right lateral surface of the glans. It had existed for more than two weeks, and had been first observed about one month before examination, after exposure with a woman of the town. The inguinal glands of both sides were indurated and one on the right was quite tender. The young man had an exceedingly cachectic look, and was put upon steel internally, and a lotion containing the potassio-tartrate of iron locally, after which the sore went on to cicatrization, leaving a decidedly blunt glans, which looked as thought a thin slice of tissue had been removed from the extremity, at an angle of about thirty-five degrees from the axis of the cone on the right. General syphilis declared itself later, and was of a mild grade.

Case V.—B., a newly-married artizan, fairly well-nourished, 25 years of age, was brought to me for consultation by a professional colleague. About twelve days after coitus with a suspicious party, he had a sore develop on the glans at the urethral orifice, which became quite painful and soon spread in extent. It had existed for some weeks prior to the date of examination. I established the fact of a conical, crateriform ulcer, involving the entire rim of the meatus, but penetrating more deeply on the inferior surface. The base of the cone was nearly circular and at the plane of the meatus, its apex buried in the urethra to the depth of twelve millimeters (one-half inch). It was densely in-

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durated and its floor covered with reddish granulations. Tenderness was quite marked, and he complained of pain on micturition. The inguinal glands were enlarged as also those of the crural region, and moderately indurated. There was little discharge from the urethra or from the surface of the sore. The patient had been careful to separate from his wife, in order to spare her the risk of infection. He was put upon small doses of the protiodide of mercury and his sore penciled with a nitrate of silver solution containing ten grains to the ounce. Under this treatment the irritability diminished and cicatrization occurred, with the glans looking as though it had lost a small anterior section transverse to the axis, presenting thus a squarish shape. The urinary orifice was completely destroyed, and admitted a No. 30 F. metallic sound with ease, although his physician had before entered only a No. 18 F. during an exploratory examination for suspected stricture at a previous date. The patient complained, when questioned on the subject, of the irregular distribution of his stream in the act of micturition, as he frequently soiled his clothing at these times. His physician informed me, subsequent to the date of my observation, when cicatrization had been accomplished, that general syphilis followed.

The points of interest worthy of special note in these last cases, are, first, that in both instances the sores were syphilitic. It is scarcely necessary to remark that extensive destruction of tissue is not uncommon after soft chancre. I have seen three-fourths of the entire organ, inclusive of the urethra, disappear after gangrene had occurred in a case of chancroid of the frenum. Second, I remark, in passing, that circumcision, while it is deservedly supposed to diminish the chances of venereal infection, does not furnish complete immunity. The experience of those who see many patients affected with venereal disease, always includes a certain proportion of individuals of the Israelitish race. I have had under observation, during the current month, four Jewish patients, one treated for abscess of the prostate, the result of acute prostatitis complicating gonorrhœa, one for secondary, and the others for ancient syphilis. Third, the error should not be committed of prognosticating grave syphilis from gravity of the initial lesion, or its complications. It seems to be at present

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accepted as true, that there is no relation between either the extent of induration, the length of the period of incubation, the occurrence of phagedena, or other concomitants of primary syphilis, and the subsequent systemic phenomena. This fact, opposed as it may appear to what would be anticipated by a knowledge of pathology in general, rests upon the best of clinical evidence; and while it is perfectly true that grave syphilis may follow a severe initial sclerosis, it is equally true that in other cases there is no such sequence, and a man with a severe serpiginous primary sore may afterward exhibit symptoms of the most benign form of the disease.

Of a total of 1773 lesions of primary syphilis, collected by Jullien in his recently published and voluminous treatise on the venereal diseases,* but 17 were strictly intra-urethral in location, while 89 involved the meatus. The author remarks that this initial sclerosis is almost never encountered deeper than the anterior half or third of the penile region, and that when the meatus is involved, the sore, incessantly irritated by the urinary current, presents the irregular appearance of the simple chancre. Respecting the best manner in which it may be recognized when seated more deeply, his remarks are seen to be justified by the clinical facts I have given above: "In order to best discover the induration, the urethral orifice must be seized between the thumb and finger through its vertical diameter. Compressed transversely, the tissues offer a resistance which permits but an exceedingly imperfect appreciation of the special sensation imparted by the syphiloma. The plastic infiltration may be tardy of occurrence, as in the case of a patient of Gailleton, whose chancre displayed induration on the thirtieth day of ulceration, and at a time when it was ready to cicatrize. At this moment the sclerosis developed to such a degree that the extremity of the canal seemed to be made of wood and micturition was, during several days, rendered difficult by a real fibrinous retraction."

He proceeds further to point out the painful character of the sore of the meatus, when irritated by the urine, and its tendency to phagedena, with the characteristic alteration in the configura-

* Traité Pratique de Maladies Vénériennes, Paris, 1879, p. 581.

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tion of the glans, which follows the last named accident. Speaking of both forms, he states that the secretion to which they give rise, is "of too little importance to attract attention," and relies for diagnostic ends upon the presence of a little nodose mass more or less sensible to the touch and painful on micturition, together with the accompanying inguinal adenopathy.

It is manifestly improper to draw conclusions from a limited number of cases, but when this limited number is a series of rare exceptions to rules established in the experience of a generation of men, the inferences they suggest should possess some interest. I think it may be fairly concluded that:

1. Chancres of the meatus and of the urethra are symptomatically distinct.

2. Chancres of the meatus are chiefly remarkable for their irritability, in consequence of the passage over them of the urinary current, their tendency to phagedena, and the characteristic deformity of the glans which they frequently occasion.

3. Intra-urethral chancre, as distinguished from visible chancre of the meatus and chancre involving in part only the rim of the urethral valve, is of exceedingly rare occurrence.

4. Intra-urethral chancre, invisible or but imperfectly visible to the eye unaided by the endoscope, can usually be distinguished as such in consequence of the mass of induration which lies immediately beneath the urethral mucous membrane at the site of the lesion, and is readily recognized by the touch through the external tissues of the male organ.

5. Intra-urethral chancres are accompanied by very scanty or insignificant discharge, and when the latter is present, it bears no proportion to the evident signs of disease connected with the sclerosis.

6. The reddened furrow or sulcus, covered with a thin secretion, visible in the floor of the fossa navicularis, especially in the subjects of gleet, should never be mistaken for intra-urethral chancre.

7. When a man exhibits a decidedly purulent urethral discharge, without coincident symptoms of unmistakable syphilis, he can be safely pronounced free from all danger of the last named disease, provided always the period of incubation of syphilitic chancre has, in his history, already lapsed.

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8. Intra-urethral chancre need therefore never be mistaken for gonorrhœal disease, as the two affections are so distinct that a differential diagnosis can usually be satisfactorily established without the aid of the endoscope.

9. For many reasons the endoscope should be regarded as a valuable adjuvant in the diagnosis of urethral disorders, and recourse should be had to it in all doubtful cases.

For the benefit of those who are specially interested in the subject under consideration, I append a list of a few illustrations in color, of the urethral lesions described:

From "Die Syphilis der Haut und der Angrenzenden Schleimhäute;" M. Kaposi; Wien, 1873. I Lieferung, Tafel I, 3. Soft Sore of the Meatus: T. V., 2 and 3. Chancres of the Meatus in Jewish Children, Infected in the Rite of Circumcision.

Also from the reproduction of Ricord's "Illustations of Venereal Disease," Philadelphia, 1872.

Plate VI., Fig. 3. Grayish-yellow secretion covering symmetrical urethral ulcers.

Plate IX., Figs. 1 and 3. Extensive ulceration of membranous and prostatic portion of the urethra, involving also the neck of the bladder, said to be instances of primary syphilis, but more probably later manifestations.

Plate XI., 1. Chancre of meatus.

2. Small grayish-hued ulcer in the superior commissure of the meatus, visible after separtion of the labia.

ARTICLE II.

ON THE MANAGEMENT OF THE UTERUS AFTER PARTURITION.

By JAMES H. ETHERIDGE, A.M., M.D., Professor of Therapeutics and Medical Jurisprudence, Rush Medical College, Chicago. Read before the Chicago Gynæcological Society, May 21, 1880.

I desire to call attention to a subject that every practitioner is interested in, and one which the general profession should use its powerful influence in revolutionizing the treatment of. That subject is, The Management of the Uterus After Labor. After

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devoting much time to considering this topic, especially in dispensary practice where one can see continually the lack of skillful care of the womb after lying-in, I have reached the solemn conviction that every woman, after delivery, should be under a physician's care for at least two months. Nearly all lying-in patients are discharged at the end of twenty or thirty days. Very many are not seen by the obstetrician after delivery. The general custom of remaining in bed for a space of seven or ten days after delivery is observed as a rule, and after that time the patient is allowed to go about and to do what she ought not to do. The largest proportion of child-bearing women are poor and must labor. Household duties are resumed too early after delivery. Going up and down stairs, taking long walks, running sewing machines, even doing the usual week's washing and ironing, and very many other kinds of labor are performed by the recently delivered woman. The great strain thus put upon the female system after nine months of a most ceaselessly active and consuming tax upon her physical resources to maintain her own physiological balance, and at the same time to build up a distinct and separate human being within her, is a test of human physiological powers so unreasonable and so prodigious that it constitutes a veritable outrage. Very many women endure this test and apparently are never worse by it, thanks to a wonderful recuperative power which their systems possess. A woman of feeble physique sees other women recover quickly from parturition and attempts to do as her stronger sister has done, and the result is the inaugurating a train of pathological processes within her pelvis from whose effects she promises never to be wholly freed. When too late, her mistake is discovered, and she soon becomes a chronic invalid. Such a patient ought to be under the obstetrician's care at least two months after delivery.

Patients standing in need of this two months of the obstetrician's care are much more numerous than is generally supposed. Low down in the social scale we find the least number of women permanently crippled by their pregnancies and labors. In the middle walks of life very many more, relatively, are found, and in the upper classes of society it is almost the rule to find nearly all

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women who have been pregnant the victims, to some extent, of some disease of the pelvic viscera. It is an exceedingly common thing to find patients among the last class who have been pregnant once or twice early in married live, and have lived barren for many years thereafter. It is as rare to find women in this class who have borne several children, as it is common to find multiparæ among the poorest classes.

The number of women constituting the so-called gynæcological cases treated to-day by physicians, who trace the commencement of their disorders back to some pregnancy, eventuating either in miscarriage or labor, is something surprising. To ascertain with some degree of satisfaction what proportion of these cases arise from miscarriages or deliveries, I have collected and tabulated the last 100 consecutive gynæcological cases, whose histories I have carefully preserved, in dispensary work. The question is always asked of those patients "What is the cause of your trouble?" All of these cases are enumerated below, and are classed under four heads. These cases are selected only to the extent of excluding virgins and women suffering from malignant and venereal diseases. I have found that the causes and diagnoses of these 100 cases can best be shown by arranging them in two columns, thus:

	CAUSES.		DIAGNOSES.	
100 Gynæcological Cases.	Confinements,	50	Hypertrophy,	34
	Miscarriages,	28	Uterine Catarrh,	53
	Hard work,	5	Lacerated Cervix,	9
	Unknown,	17	Prolapsus,	2
		—	Metrorrhagia,	1
		100	Retroflexion,	1
				100

From this number it will be observed that 78 cases out of the 100 attribute their troubles to a certain confinement or miscarriage. In other words, 78 per cent. of gynæcological cases may be said to have originated immediately subsequent to gestation, partial or complete.

This brings me to a brief consideration of the management of women after labor. Given, a recently delivered woman, what is the physician's duty toward her? I am convinced more and more every year, from the lesson given by the interpretation of the foregoing briefly condensed syllabus, that the convictions of

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obstetricians will result in a new teaching, that a physician's duty to mothers will not be completed after delivery till the uterus has resumed its normal size. The time is near at hand when this treatment, preventive of gynæcologic developments, will take rank with sanitary science, the most actively investigated field of medical science to-day.

Immediately after delivery the uterus presents a state of physiological activity equaled only by the process instituted in the same organ immediately after conception. "In no other structure do we ever see nutrition and growth going on so rapidly as here, where out of a mere mass of nucleated fibers and cells, an enormous body of numerous and well marked muscular fibers becomes developed within the course of the nine months of pregnancy.*" After the completion of placental expulsion, the muscular fibers, exhausted by their prodigious action during labor and so rendered prone to degenerate, and deprived also in a great measure of the supply of blood brought to them so profusely during gestation, undergo a fatty metamorphosis and almost all melt down and disappear. In normal cases the whole organ dwindles down and diminishes to nearly its original dimensions in from six to eight weeek. The muscular fibers are not absorbed as muscle, but, after first undergoing fatty degeneration, are absorbed as fat. This degeneration progresses from the inner to the outer layers. And right here, in this physiological process of degeneration and absorption, are presented the beginnings of so many cases of uterine disorder. Interference with this process develops disease. What constitutes this interference and how can the obstetrician avert it? These two questions as to cause and cure are what I wish to call special attention to. Clearly defining the first will suggest answers to the second question.

1. As to the cause.

It may be laid down as a broad principle that whatever lowers the health standard for a woman recently delivered, will retard or pervert the normal degenerative and absorptive processes herein considered. It is, of course, unnecessary to state that what may be called the health standard of such a woman is not the

* Simpson, Dis. of Women, p. 587. 1872.

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same as the health standard of a woman who has not so recently passed through with the immense strain and drain on her vital powers of building up, out of her own tissues and vitality, a new human being. Each one may be called a healthy woman in her way and yet both are very far apart in very many particulars.

(*a*) Faulty nutrition lies at the basis of nearly or quite all cases of arrested uterine metamorphosis and absorption. Whatever contributes to this faulty nutrition is of the first importance. Lessened oxidation of the blood from diminished respiratory capacity in the last months of gestation, enfeebled circulation from the alleged fatty degeneration of the heart, incident to all pregnancies, perverted or exaggerated nervous manifestation attending ingravidation, all contribute to lessen the digestive and assimilative functions in all women. The feebler the woman, ab initio, the more pronounced these contributions to faulty nutrition after delivery become, varying all the way from the minimum effect to the occasionally observed irretrievable impairment of health. The more that the obstetrician reflects upon these factors of faulty nutrition in detail and as a combination, the more he is astonished that more has not been written upon them, and the more he is surprised at the varying resistive capacities that women present at this time.

(*b*.) Another and but very little mentioned cause of faulty nutrition is diathesis. Patients presenting strongly marked rheumatic, strumous or gouty diatheses are extremely liable to become victims of a faulty nutrition, inducing arrest of fatty degeneration and absorption after delivery. Were time allowed, many cases illustrating the influence of diathesis in its deleterious effect upon women after labor could be cited. From the hundreds of recorded dispensary cases at my disposal, I could present multitudes of cases illustrative of the rheumatic and gouty diatheses in retarding involution. The confidence with which I can speak upon this point is founded upon the results obtained from using so-called anti-rheumatic and anti-lithic remedies in treating and curing such patients.

(*c*.) Another factor of faulty nutrition is anæmia. This condition is so frequently produced by too abundant losses of blood seen in obstetric practice, that merely mentioning it suffices to

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call to the mind of every gynæcologist numerous cases of involution arrested thereby. I know of no condition more common in gynæcological practice than the enlarged uterus in women suffering from anæmia dating from confinement.

(*d.*) Another condition contributing to faulty nutrition which ought to be dignified by special mention, although it is in fact a mere symptom, included in some of the aforementioned systemic conditions, and of extremely frequent occurrence, is obstinate constipation. The multiform evils arising from this trouble are as familiar to physicians as household words. Yet there is no one thing more commonly overlooked and neglected by practitioners.

(*e.*) Another cause of faulty nutrition is laceration of the cervix uteri. This accident, resulting in cicatricial tissue, uterine displacement and obstructed circulation, speedily induces reflex, deleterious effects on the general nervous organism, which eventuate in a faulty nutrition of the system, and to this can we attribute the continuance of the enlargement of the uterus.

(*f.*) Another condition producing faulty nutrition is faulty hygiene, which includes, chiefly, bad air, improper food, and insufficient protection against atmospheric changes.

(*g.*) Another condition conducing to faulty nutrition is the great activity of the depressing emotions. Great grief, fear, excessive anxiety, an excessively humiliated pride and the like, produce such wrecking devastation upon the system as to result in mal-nutrition.

(*h.*) Another cause of arrested involution is occasionally met with, which obstetricians should emphatically denounce, and that is the too early resumption of the sexual act.

(*i.*) Another cause of faulty nutrition, resulting in permanent uterine enlargement is that peculiar systemic condition characterized by a general depravity of all the powers of life, called neurasthenia. The more closely this term, as applied to the condition that it defines, is investigated, the more does it seem to be a *pons asinorum*. Occasionally the obstetrician, bewildered for an explanation, is justified in taking refuge behind this term to explain the cause of sub-involution.

What is the obstetrician's duty to the recently delivered woman?

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Evidently, to treat her till the uterus has resumed its normal size. To do this involves anything but routine treatment. Each case needs treatment indicated by itself. Any physician attempting to treat all cases alike will soon abandon such treatment and make each case an individual study. For the sake of convenience, the treatment can be divided into two heads; first, general, and second, local.

First. The general treatment reduces the specialist to the rank of the general practitioner, and involves taking into consideration every factor of health and disease. Above all, the patient must be put into possession of a digestive power as perfect as can be secured. The stomach and intestines must be made to do their individual work as vigorously as the conditions found will admit. Stomachic dyspepsia, tympanitis, costiveness, and constipation must be reduced to a minimum. The obstetrician's armamentarium against these symptoms is very great. Particularizing individual remedies would carry this paper to the proportions of a volume. It must suffice to say that every alimentary symptom must be carefully scrutinized and corrected.

General treatment also involves attention to the cutaneous and urinary functions.

Of infinite value to the obstetrician is a knowledge, well digested and made practical, of diathetic taints. These modifying conditions are so overshadowing in their influence upon the functions that nothing short of a speedy and intelligent recognition of them will make the practitioner's prescriptions, in most instances, aught but lucky ventures in correcting them.

Anæmia should be treated with ferruginous and bitter tonics. Produced, accompanied or modified by rheumatic, gouty or strumous diathesis, it demands remedies specially calculated to lessen such diathetic taint, before so-called anti-anæmic remedies can be of signal advantage. Losing sight of this fact often results in defeat, easily avertable.

Neurasthenia must be treated in a way *sui generis*. Massage, aggressive tonics, the best of physical and mental hygienic conditions, food the most nutritious and in the largest quantities possible for the patient to digest and assimulate, and occasionally,

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electricity, seem to constitute the most approved treatment of to-day.

Second. The special treatment of women after confinement, where needed, consists chiefly in the use of means directed to the uterus itself and its accompanying organs. Each case furnishes its own indications.

Where lacerations of cervix or perineum exist they must be closed.

When the uterus is found too low down from its preternatural weight, it should be sustained by some perfectly fitting mechanical support. Any degree of prolapsus produces disordered uterine circulation, eventuating in engoregement, which, in turn, by encroaching upon the lymphatics, prevents the performance of their special functions.

When no cervical laceration exists and the uterine circulation is not interfered with by prolapsus from any cause whatever, a few measures of great efficacy may be used to hasten involution. The first one of these is ergot. The fluid extract ought to be frequently administered, in comparatively small doses—e.g. 10 to 15 drops, four or five times per day. When any contra-indication exists against its use by the stomach, nausea, vomiting, cephalalgia, or any diminution of the lacteal secretion, or untoward effect upon the babe or wakefulness or intestinal colic, it can be given by the rectum twice a day, in milk, in doses proportionally increased, or in suppositories containing ergotine.

The second measure available is hot-water injections. These, given per vaginam, as hot as can be borne, twice or thrice daily, in amounts varying from one to two gallons, are of extremely great efficacy in promoting involution. Very often they cannot be given so often in so large amounts. The patient is unable to administer them without imposing an unwarrantable amount of fatigue upon herself. When she cannot receive the benefit of them used to their greatest advantage per vaginam, very often a maximum of good can be derived by putting a quart of hot water into the rectum, a method recently advocated by Dr. Chadwick. Twice daily a rectum filled with hot water will produce signal benefit. The fact must not be lost sight of, however, that simple hot water *may* produce disturbance in the rectum by

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denuding the mucous membrane of its protective mucus and thereby setting up the commencement of a prochitis.

The explanation of the *modus medendi* of hot water is its well and long-known powerful stimulant effect upon the vaso-motor constrictor system of nerves, producing a diminution of the caliber of blood vessels. In this way decongestion is quickly obtained and is comparatively easily secured.

Another measure of inciting the resumption of the act of involution in cases called chronic, is the use of tents for repeated distension of the uterus. Slippery elm, tupelo or sea tangle can be used. The resort to these seems perfectly justifiable where the arrest of uterine metamorphosis soon after delivery seems to have assumed an obstinate phase.

Another measure that has been used by the advocates of manipulative treatment is massage—uterine massage. The American physician evidently needs educating in this measure, because it is an extremely easy matter to deride it and politely cough it down. The most incredulous physician needs but a few instances illustrative of the extremely rapid and satisfactory cure of this class of cases to satisfy him of the excellencies of uterine massage and to make him an earnest advocate of it.

TO RECAPITULATE: The aim of this paper is to contribute to the totality of our knowledge of the causes of gynæcological disorders, and to assist in creating opinion which shall eventuate in obstetric authorities imparting more correct and elaborate teaching as to the obstetrician's duties to women after confinement. It is less than thirty years since any definite opinion has been expressed by the authorities mentioned, as to how long a time the uterus requires to return to its natural proportions after its evacuation. Smellie claimed but three weeks and Scanzoni sixteen weeks for the period of normal involution. This difference of opinion arose from the lack of attention involving extended observation upon this subject. Let any physician, profoundly convinced that text books do not teach with sufficient emphasis the duty of the obstetrician to recently delivered women, as indicated by the result of dispensary observations in this particular, attempt to keep his post-puerperal patients under observation beyond the customary "three days after delivery," and he

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will soon be brought face to face with the fact that the obstetric custom of to-day compels him, perforce, to be a prolific contributor to the myriads of gynæcological patients so surprisingly discovered in this generation.

Future works on obstetrics will be incomplete if they do not include definite and minute instructions as to the care of the post-gravid uterus. They should teach that so long as the fundus uteri rises above the symphisis pubis, the patient should rest more than she exercises—that, when the progressive character of involution is arrested, the minutest attention to the patient's general condition is demanded, together with special measures to secure the continuance of a diminishing of the uterus to its normal size.

I. Among the causes of defective uterine involution may be included:

(*a.*) Faulty nutrition.
(*b.*) Diathetic taints.
(*c.*) Anæmia.
(*d.*) Obstinate constipation.
(*e.*) Lacerations.
(*f.*) Faulty hygiene.
(*g.*) Depressing emotions.
(*h.*) The marital act.
(*i.*) Neurasthenia.

II. The treatment recommended embraces:

1. *General Treatment:*

(*a.*) Correction of all alimentary derangements.
(*b.*) Removal of anæmia.
(*c.*) Neutralizing of the effects of diathetic taints.

2. *Special Treatment:*

(*d.*) Closing of lacerations and using of needed mechanical supports.
(*e.*) Ergot by stomach or rectum.
(*f.*) Hot water injections *per vaginam vel rectum.*
(*g.*) Dilatation by using tents.
(*h.*) Uterine massage.

DISCUSSION.

DR. JACKSON: I regard the paper as one of very great interest and full of important suggestions. The statement, however, that more than 75 per cent. of our gynæcological cases are dependent upon sub-involution of the uterus or any other result of

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parturition which should be a physiological process, is, to say the least, a startling one; and if it be correct, the fact shows the great importance of adopting proper measures for the prevention of such consequences. In a general way I can endorse the treatment advised by the essayist for this purpose; attention to the state of the bowels, kidneys, skin, the timely use of ergot, etc.

I have found ergot especially useful in cases where the uterus is enlarged and still soft in texture before the indurated stage is reached. Arsenic is also useful in these cases. In those of long standing, where the uterus is hard and enlarged, I have frequently applied the fuming nitric acid with excellent result.

The hot water douche, while frequently an excellent and useful remedy, is not always so. The blanching of the vagina and vaginal portion of the uterus produced by its employment is not of long duration. I have seen these parts a half hour after being thus blanched become fairly purple from the congestive reaction. Then too some persons suffer so much from flushings of the face and headache after its use as to make it an unsuitable remedy at least for them.

DR. EARLE said that if the figures presented to us were correct, the accidents and bad results incident to child-bearing must be far greater among the poor than among all other classes. In a practice of ten years, mainly among the middle class, with a moderate percentage of the upper or more wealthy part of the people, not two per cent. had ever applied for any uterine treatment of which child-bearing was thought to be the cause. The surroundings of the lower class, and the kind of food which, from necessity, they must take, had much to do with producing the condition described by the essayist. At least four of the symptoms enumerated were due to hard work and poor food, namely bad nutrition, diatheses, anæmia and constipation, and it hardly seems necessary to me to refer them to child-bearing.

Two important causes of disease peculiar to women were prevalent among the very poor, and in many cases it was impossible for the physician to do away with these causes. I refer particularly to too early getting up after confinement, and secondly to the debility following a long course of lactation where there is

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insufficient food with really more work than any nursing mother should be allowed to perform.

I am an advocate for at least two full weeks' rest in bed for every lying-in woman. I know, however, that it is impossible for many to give this time; and then there are those who oppose it—certain nurses and a few physicians who seem to think it is the best procedure—indeed, the creditable thing—to get a woman out of bed the second or third day after delivery. I believe it to be absolutely wrong to encourage this, for I am sure it gives rise to many of the symptoms to which our essayist has called our attention. And further, lactation among some of these women, especially those who are obliged to work very hard, and from pecuniary causes are unable to have a varied and generous diet, is frequently followed by these same symptoms.

Later in the discussion, PROF. MILLER took exception to what he understood to be Dr. Earle's opposition to mother's nursing their children.

DR. EARLE explained that he did not oppose lactation—indeed, always favored it. Art could not supply a substitute; yet with insufficient food for the mother, in addition to hard work, it did seem to him that debility, prostration and anæmia frequently occurred without the factor of child-bearing entering as a cause.

DR. ETHERIDGE: The objection to hot water injections producing temporary anæmia, followed by increased turgescence, holds good only where occasional injections are used, small in amount. When they are resorted to three or four times every twenty-four hours, to the extent of six or eight quarts each, the blanching effect of one injection remains till the next one is used. Hence frequent large injections are recommended.

Attention to the alimentary functions is of the highest importance. The tendency to portal engorgement, with its resultant anorexia, stomachic and intestinal indigestion, and constipation, can be best removed in most cases, by the use of laxative—not cathartic—doses of mineral waters. An extensive use of the various waters has resulted in a preference for the "Ofner Rakoczy Bitterwater." A wineglassful in one-third or one-half a cup of warm water or warm milk in the empty stomach mornings, will produce an astonishing effect in quickening a sluggish

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portal circulation, removing effete products (and thereby becoming a veritable "blood purifier"), and in invigorating the appetite and the secretions of the alimentary secernents. The result of thus using the Rakoczy water is a digestion of more food, and the elaborating of more healthy blood, which is the only groundwork of permanently correcting faulty nutrition. The dose must be increased or diminished to suit each individual case, the end sought being a natural, daily fecal evacuation, without nausea or griping. Calling this water by its other name—a "blood purifier"—removes a popular objection to daily catharsis. Continuing its use for six weeks will result in a new order of portal nutrition which does not demand its continuance.

It is a curious clinical fact that where an active purgation is demanded, the color of the feces indicates a definite distinction of choice between mercury and podophyllin; where the dejections are too light, mercury is followed by the best results. When they are too dark, podophyllin should be used. Physiology teaches that between three and four pints of bile are poured into the duodenum every twenty-four hours. Nearly all of this bile is re-absorbed, passes through the liver, is re-excreted and again passed into the bowel. Day after day and week after week throughout life the liver is incessantly active, secreting and excreting. Were this hepatic function checked to any great extent, dire disaster would result. It is a gross error to hold that "the liver is inactive"—"is dormant," etc. The fact is, that, like the kidneys and heart, it never sleeps till death supervenes. What results when a "cholagogue cathartic" is given, followed by "bilious discharges," is, the stepping in between the progress of the bile along the intestine and its re-absorption, and preventing the latter. As a result, this fluid is hurried along the canal, and it makes its appearance in the dejecta. The mercury or podophyllin does its good work by removing thus old bile practically worn out, and hence an excretion which ought to be removed, and enables the liver to purify the general circulatory torrent by eliminating from it the biliary constituents, which in excess cause the so frequently observed condition known as icterus. In this way the obstetrician can contribute to removing "faulty nutrition" in post-puerperal patients.

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A lacerated perineum ought to be closed immediately after delivery. A lacerated cervix ought to be closed as soon as it is evident that involution is arrested. Where involution is complete, the propriety of operating for cervical laceration becomes a debatable question.

The use of ergot may be resorted to from delivery, and continued or suspended *pari passu* with the slowness or promptness of involution.

The objection that the 78 per cent. alluded to is applicable more to dispensary than to private practice, and that this proportion is too high because it excludes virgins, is difficult to substantiate, because in a city—*e. g.*, Chicago—it is easy to ascertain how many deliveries at term occur, and it is absolutely impossible ever to know how many abortions occur in "virgins" as well as in married women. It is as impossible to know how many gynæcological patients there are who never consult physicians for their diseases, and yet are veritable sufferers from uterine disease arising from defective involution.

Another item for contemplating in the syllabus given is the 17 per cent. of causes headed "unknown." Could the facts be known about each one of those seventeen cases, it would probably be found that the majority arose from defective involution. And it would in all probability be more nearly correct to maintain that the 78 per cent. should be brought up to the neighborhood of 90 per cent.

The subject of rest alluded to by Professor Miller is of such acknowledged importance that but one opinion concerning it can be entertained. I fail to appreciate the ambition manifested by some practitioners to have lying-in women get up early after confinements. It is impossible for any one to appreciate the intrapelvic changes after delivery without deciding in all cases that the only safe course is to advise more of rest than exercise so long as the fundus rises above the pubic arch. Ten days ought to be a minimum time for a patient to remain in bed after delivery. I always advise a woman to remain in bed three weeks rather than ten days.

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ARTICLE III.

PROF. CLAY'S NEW CANCER CURE. By EDMUND ANDREWS, A. M., M. D., Professor of Surgery, Chicago Medical College.

Widespread attention is being attracted on both sides of the Atlantic by a remarkable new series of experiments on the treatment of cancer by internal administration, recently published by Prof. John Clay, of the Queen's Hospital, Birmingham, England.

The alleged curative agent, a mixture of Chian turpentine and flowers of sulphur, bids fair, for a time at least, to rival the once famous Cundurango in its reputation as a cancer specific. Concerning its value in this disease, Prof. Clay makes the following assertions, supporting them by a number of cases: "The turpentine seems to act upon the periphery of the growth with great vigor, causing the speedy disappearance of what is usually termed the cancerous infiltration, and thereby arresting the further development of the tumor. It produces equally efficient results on the whole mass, seemingly destroying its vitality, but more slowly. It appears to dissolve all the cancer cells, leaving the vessels to become subsequently atrophied and the firmer structures to gradually gain a comparatively normal condition.

"It is a most efficient anodyne, causing an entire cessation of pain in a few days, and far more effectually than any sedative I have ever given. In the cases I have described no sedative was given in any instance, although in some cases, where great pain had existed previously to commencing the treatment, large doses had been given. Whether this arrest of pain arises from the death of the tumor or, as my son suggests, is due to there being no longer irritation of the sentient nerves (in consequence of the tension being withdrawn by the removal of the cells), the fact is the same.

"If, after the use of the remedy for some weeks, one of these cases were examined by a stranger for the first time he would probably conclude that it was one of commencing malignant disease, by reason of the irregularities of the surface. The effect of the remedy being first to remove the cellular structures, any loss

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of tissue produced by the invasion of the disease cannot be restored, and hence the irregular touch and appearance, even after cicatrization. The arrest of the hæmorrhagic discharge, and the remarkable freedom from glandular affections, after a lengthened use of the turpentine, are especially important factors in materially aiding the removal of the cachexia, and of improving the general condition of the patient.

"Without being in a position to affirm that the Chian turpentine is a positive cure for advanced cancer of the female generative organs, yet, however the facts here adduced may be interpreted in this respect, two circumstances are indisputable—one, that all the patients, after several months' treatment, are living, and that the disease has not advanced, as is usually the case, but has retrogressed—in fact has all but disappeared; and it may at least be safely asserted that when the remedy is steadily used for some time, it arrests the progress of the disease, and relieves the pain incidental to the morbid growth in a manner which cannot be said of any other remedy."

The daily papers have reproduced Prof. Clay's articles, and the laity as well as surgeons are making vigorous demands for the drug. Persons in Chicago, without waiting for medical advice, have telegraphed to New York and even London to procure it. Under these circumstances, the question of the genuineness of the agent becomes of great importance.

Telegraphic inquiry of a leading and reliable house in New York has assured me that there is no genuine Chian turpentine in this country. The article sold under that name by some of the Eastern firms is a fraud, and consists of Venice turpentine flavored with aromatics. The *Chemist and Druggist*, a London pharmaceutical journal, asserts that there is very little of the genuine in market in that city, and publishes letters from the vicinity where the substance has been procured heretofore, showing that now there is none to be obtained either in Athens or Smyrna, except some fraudulent imitations.

Meantime there was resurrected from the Apothecaries' Hall in London an old cask containing fifty pounds of the genuine article, which had lain untouched for nearly half a century. This was quickly sold out at fabulous prices, so that, as the *Chemist*

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and Druggist remarks, the cask "proved a small gold mine." A gentleman in Chicago, who has influential acquaintances in London, has obtained a small amount of the genuine article from the same stock that supplied Prof. Clay. As its identity is perfectly proved, and it exactly corresponds to all the tests mentioned by Prof. Clay, I have ordered more by telegraph from the same source.

It appears, therefore, that we are on the eve of a great demand for Chian turpentine. The price is running up at a fabulous rate. and will, no doubt, flood the market with fraudulent imitations.

It is important, therefore, to consider whether any efficient substitute for the real drug can be procured. Chian turpentine is named from "Chios," one of the names of the Island of Scio, where it is produced. It is also found on the Island of Cyprus; and is sometimes called "Cyprus turpentine." Unlike most of the resins, it is not the product of a coniferous tree, but of the *Pistacia terebinthus*, belonging to the natural order *anacardiaceæ*, to which belong also the sumacs, poison ivy (*Rhus tox.*), and *Rhus aromatica*.

In default of the genuine Chian turpentine, it will be rational at present to use the resins of other trees of the same genus, which probably contain similar medicinal properties.

Ordinary mastich is a resin in its physical and chemical qualities closely similar to Chian turpentine, and it is produced from a tree of the same genus, *P. lentiscus*. This drug can be obtained in purity, although somewhat costly, and may be prepared in the same combinations as the Chian turpentine. The latter drug has been used by Professor Clay in the form of an emulsion, giving eight grains of the turpentine and six grains of flowers of sulphur to each dose, three times a day. Mr. E. H. Sargent, 125 State street, of this city, has prepared a confection of mastich and sulphur which seems more likely to be agreeable to many patients than the emulsion.

Whether this new remedy will prove of value, or will go the way of its predecessors into obscurity, is yet to be determined.

Prof. Clay's statements are clear and positive. Some experiments made by myself and by others in this city would seem

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thus far to corroborate his assertions, but we have not carried them far enough as yet to be able to state whether the apparent improvement will be permanent. An important question arises as to whether Prof. Clay is not mistaken in giving Chian turpentine, rather than sulphur, the primary place in his prescriptions. The malignant element in cancer appears to be the non-adherent, multiplying cells which fill its cavities, and so far as we can judge, its disastrous results are dependent on the enormous power of reproduction of these bodies. If there be a substance in the Materia Medica which can act upon these cells as antiseptics act upon bacteria, by destroying their life, or can modify their vitality, so as to check their multiplication, as arsenic checks the production of epithelial cells in scaly diseases of the skin, such a remedy will cure cancer. Cells already in existence would either be absorbed or remain harmless, if they no longer multiplied.

These cells, in short, suggest to one many analogies with such low forms of organic life as are destroyed by sulphur, arsenic, carbolic acid, etc. The analogy is vague, and not implicitly to be trusted; nevertheless it strongly suggests that the efficacy of this combination may be due to the cell-destroying power of the sulphur or of sulphurous acid, and that the turpentine may be only an adjuvant. Be this as it may, whenever we are unable to obtain genuine Chian turpentine, it would seem best, under the circumstances, to give sulphur in full doses, and to substitute the resin of the *Pistacia lentiscus* for that of the *Pistacia terebinthus*.

The *British Medical Journal* says that the Chian turpentine has been tried in the London Cancer Hospital without any success. It does not state whether the sulphur was used with it or omitted, nor whether an indisputable article of the turpentine was obtained.

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ARTICLE IV.

QUINQUINIA—WHY IT SHOULD BE USED BY COUNTRY PRACTITIONERS. By JAMES S. WHITMIRE, M.D., Metamora, Ill.

It has always been impressed upon my mind that if there could be prepared from the cinchona bark a preparation containing all the alkaloids of the bark, including all the active principles that remain in the mother waters after the crystalizable alkaloids have been separated—the so-called chinioidine—that we would not only have a better tonic and febrifuge, but that we would establish a system of economy in the use of the bark and its preparations, that is becoming more and more necessary from year to year on account of the destruction of the forests of this tree in their indiginous, or native, haunts. The chief source of the world's supply of the bark has been and still is the South and Central American states. The Colombian states, Peru and Brazil are probably the greatest source of the world's supply of the bark of any of the South American states; and, though the bark is one of the main sources of revenue that some of those states possess, yet the government has taken no steps to prevent the destruction of the trees; besides, it has been ascertained that the bark of the root is more valuable, on account of its being richer in alkaloids than that from other portions of the tree, and, therefore, whole forests of all the species are being swept from the face of the earth on account of this character of vandalism. My son, C. L. Whitmire, who went to Honduras, with others from the Illinois Industrial University, tells me that the cinchona tree grows and flourishes among the mountains and table lands of the isthmus to a considerable extent, but there is so little industry or enterprise among the natives that the bark is not gathered to any great extent, and when it is gathered at all the tree is cut up root and branch, so that in time the total de-destruction of the forests is inevitable. Besides these considerations the instability of the Central and South American governments, their internal feuds, and petty wars with one another all tend to lessen the supply of this now indispensable drug, because

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one state cannot inflict a greater calamity on another, between which there is a conflict, than to destroy not only the native growth of the cinchona tree, but they not unfrequently destroy the plantations of the tree, where there has been forethought and enterprise enough in the different states to cultivate its growth. Why is it that more of the different governments of the earth have not taken these facts into consideration and begun the cultivation of this invaluable tree? Certainly nearly all must know the growing scarcity of the bark, and also know that without the fostering care of government in its propagation that every species of the tree must become extinct in their native wilds. There is no estimating the value that the bark of the cinchona has been to the world. It has enabled the people to settle in and develop the waste places, and the most valuable of our agricultural lands have been rendered inhabitable by the use of this drug, which, even to this day, would have remained undeveloped. Brazil and Peru are the only two South American states that have made any considerable progress in the cultivation of the cinchona tree.

In this they have shown great wisdom. The British government has shown great forethought and wise counsel in having introduced the cultivation of the tree in her Indian possessions as well as in the island of Jamaica in the West Indies. The Dutch have introduced it, successfully, in the East Indies, and the French in the island of Bourbon and in Algiers. Now that several of the governments have had enterprise and philanthropy enough to banish all doubts as to its successful cultivation, it seems to me incomprehensible why the government of the United States may not follow suit and introduce its culture on her waste lands in the mountainous districts of southern California, Arizonia and New Mexico, the climate and other conditions being such as to almost insure its successful culture, it being known that it comes to perfection at an altitude of from 3,000 to 5,000 feet.

During the year 1879 there was more bark imported into the markets of the world than had ever been before, but it was, taken as a whole, vastly inferior in quality, it containing less of the alkaloids than that of former importations. This was owing, partly at least, to the fact that an inferior species of the tree had

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been cultivated in the Indies, and, also, the vandalism that is permitted in the South American states, in the destruction of the best species of the native tree, for either gain or destruction. The facts as here stated, and which are undeniably true, should induce every physician who prescribes the alkaloids and every manufacturer who places them on the market to economize the products of the cinchona bark, so that no particle of any value whatever should be lost. This has really been the case with the cheaper alkaloids during the last few years, and each has been tried in turn in order to ascertain its true therapeutic value, and now the different alkaloids, exclusive of quinine, are used throughout the Mississippi valley, many physicians, particularly country and village practitioners, using the cheaper alkaloids almost to the entire exclusion of quinine. All the alkaloids, quinine, quinidia, cinchonine and cinchonia, are now in use as tonics and antiperiodics, and for many years the chinoidine has been pressed into the service as a prophylactic, and even as an antiperiodic, which quality it possesses in an eminent degree, though it is not so much used for that purpose, on account of its nauseating qualities, as the other products of the bark. Quinine is now fast becoming, on account of the price, out of the reach of the poorer class of our patients, and had it not been for the cheapness of its congeners, and their very general use, the price of quinine would have been now double what it is. Now, in order to avail ourselves of all the medical constituents of the bark, let us all, particularly country practitioners, who are compelled from necessity, on account of the lack of drug stores, to furnish our own medicines, give the quin-quinia a fair and impartial trial. This preparation of the bark is manufactured by Charles T. White & Co., of New York, and claims to contain all the the alkaloids of the bark, including the amorphous constituents contained in the mother waters after all the crystalizable salts have been separated—the so-called chinoidine. I have been using this preparation for several months in my practice, which extends to and along the Illinois river bottom, consisting of bogs and lagoons. The blood of the people living in the vicinity is, at all seasons of the year saturated with the malaria emanating from the swamps and marshes, so that I have given the quin-quinia a very thorough

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trial, and, so far, it has never disappointed me in its action. At the commencement of its use I was a little chary in regard to placing entire confidence in its ability to interrupt a paroxysm of ague at an ordinary dose, so that I began at thirty-five grains, divided into seven powders, one to be taken every two, three or four hours, according to the circumstances as to whether it was a quotidian or tertian; then as other cases occurred I continued to lessen the amount used till I found that twenty grains would, in most cases, interrupt a paroxysm of simple intermittent. I soon began to use this preparation in every form of malarial poisoning, complicated or otherwise, when an antiperiodic or a tonic was deemed necessary. Finding that it acted promptly in every instance where it was used, I necessarily became more confident in regard to its action and was prepared to use it under any circumstances and in any emergency.

After I had come to this conclusion it was not long before an opportunity offered to try my faith in the virtues of the new drug. Mr. A. M., aged 30, usually stout, lived on the Illinois river bottom. June 1, 1880, I visited him, immediately, or as soon I could drive eight miles, and found him just rallying from a collapsed condition caused by an attack of pernicious fever—congestive chill. I gave him ten powders consisting each of quin-quinia grs. x., opii. gr. $\frac{1}{5}$, of which one was to be taken every two hours. The next day and the day after my patient missed the paroxysm, and then all the treatment he required was to continue the quin-quinia in from three to five grains every four or five hours during the daytime, so that in a few days he was able to labor about his farm and stable. I have also found that in large doses it has the property of lessening the animal temperature and producing quininism the same, or very nearly so, as that of the sulph. of quinine. Taking it all in all, I am greatly pleased with this new preparation of the bark and its action on the economy; and containing all the active principles of the bark as it is claimed, there is no reason why it may not become the popular remedy, particularly in charity hospitals and with country physicians who furnish their own medicines. It is retailed at one dollar an ounce, and will go two-thirds as far, at least, as an ounce of quinine. Taking its price into considera-

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tion it will make quite a difference, annually, in the exchequer of of the country practitioner whose business lies in malarious districts; and so long as public sentiment compels the country practitioner to become the public medical almoner of the poor, it is necessary that we should use every endeavor, in justice to ourselves, where there can be no detriment to the patient, to make our expenses as light as possible, and by the use of this article in appropriate cases, economize the destruction of the bark, and thereby keep quinine and the separate alkaloids at a reasonable figure. While it is true that my experience with the use of quin-quinia has only extended for a few months back, yet it has proven so satisfactory in my hands that I feel it a duty that I owe to my professional brethren to recommend it for trial to all Western practitioners who have to furnish their own antiperodic medicines, believing that it will prove fully, if not more, satisfactory than either of the alkaloids separately, not excepting quinine—the king of antiperodics. Besides, I am particularly impressed in its favor on account of its having all the medical virtues of the bark, as it is claimed, combined in their natural proportions, making less bulk and tasting less bitter than any of the salts of the bark. It is a well known fact that when quinine has failed in chronic malarial poisoning to interrupt the irregular paroxisms, the bark has been resorted to in substance with marked benefit to the sufferer, and has answered the purpose when quinine, the other salts and arsenic combined had failed to effect a cure. These facts, generally known by the profession, are only necessary to be alluded to, to convince every one of the undoubted value of the quinquinia, if it is honestly manufactured and contains all the virtues of the bark as is claimed by its manufacturers.

METAMORA, Ill., June 18, 1880.

THE fourth annual meeting of the American Dermatological Association will be held at the Ocean House, Newport, R. I., on the 31st August, the 1st and 2nd September.—ARTHUR VAN HARLINGEN, M.D., Secretary.

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Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

ARTICLE V.

A Fatal Case of Acute Suppurative Otitis.

It happens but very seldom that an acute inflammation of the middle ear causes the death of the patient in the first week or fortnight. For this reason I thought that the report of the following case, which I have recently observed in consultation with Dr. S. D. Jacobson of this city, would not be without interest. The doctor has kindly furnished me the following memorandum of his observations:

April 23, 1880. Was called to see Mrs. S. M., 56 years old, of full habit, but enjoying good health until three or four days ago, when she was seized with violent pain in her head, particularly in the right side; also some deafness and a humming noise in the right ear. The next day there was already a purulent discharge from the ear, which, however, brought no relief. I found the patient up and dressed, with her head wrapped in a woolen shawl; face flushed, pulse 96, temp. 38.50, tongue coated; complained of intense headache, earache, loss of appetite and of sleep, constipation; could not hear the watch tick with right ear unless it was in contact with skull; with left ear heard watch at six inches. No complaints on left side of head. On the right side great tenderness of ear and mastoid region, purulent discharge from meatus. Ordered hot-water injections in ear, an aperient and iodide of potassium with bromide of potassium internally.

April 26. Improving. Headache not so much. Discharge diminishing, as also tenderness of right ear. Commenced to-day

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to complain of severe pains in left ear, with tinnitus in the same; watch not heard except when in contact. No discharge from left ear. Tympanum almost normal.

April 28. Improving slowly; had less pain.

April 29. Had a chill to-day, followed by heat and perspiration; temperature 40.2 in the evening. Ordered quinine.

April 30, morning. Temperature 39; slept after morph. syrup; headache intense; no discharge; membrana tympani of a dull, red appearance not bulging. On account of intense pain: paracentesis.

May 1. Purulent discharge from left ear since yesterday; headache less; had another chill with perspiration afterwards.

In the forenoon of May 2, I saw the patient and noted the following condition: Temperature 40, pulse 80; tongue coated and dry; eyes half closed; pupils of equal size; patient did not answer to questions, indifferent to everything, though conscious; but very restless, constantly moving the upper and lower extremities. Right ear, moderate purulent discharge, without any complication. Left ear, a small quantity of sanguinolent pus in external meatus; large opening in membrana tympani, showing the mucous membrane of the tympanic cavity in a highly vascular and swollen state. There was some swelling and induration behind, above and in front of the ear; it was more marked in the temporal region than any where else.

In the afternoon of the same day, Dr. J. found complete paralysis of left side of face and right side of body; loss of consciousness; retention of urine, and involuntary evacuation of bowels; temperature 41. In this comatose state the patient continued thirty-six hours, and died early in the morning of May 4th.

I regret that the autopsy could not be obtained in this case; for it would have been very interesting to ascertain positively the extent and nature of the fatal complication, and also to find out—if it was possible—why the disease took that insidious course in the left ear, while it proved so mild and manageable in the right ear. Without autopsy our diagnosis amounts only to a conjecture suggested by the prominent symptoms of the disease. The succession of the graver symptoms was as follows: Violent

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inflammation of the left tympanum, repeated chills, œdema about the ear, cerebral excitation followed by coma and paralysis. This train of symptoms, I think warrants the conclusion to be drawn that death resulted probably from thrombosis and phlebitis of the lateral sinus, and pyæmia. As evidence of thrombosis and phlebitis, I regard the œdema about the ear and the cerebral excitation preceding the comatose stage; while the repeated chills and high fever are manifestations of pyæmia.

One symptom which is considered pretty good evidence of phlebitis of the lateral sinus, but which was not clearly developed in the above case, is an induration and swelling of the tissues of the neck. The presence of this symptom in one case, and its absence in another case, is easily explained. We know that the lateral sinus is in direct communication with the cervical veins through the *venæ emissariæ mastoideæ*, which emerge just behind the mastoid process. These emissary veins therefore furnish an easy route by which the phlebitis of the lateral sinus can be propagated to the extra-cranial veins. Whenever this occurs, we shall probably observe the induration and swelling in the tissues of the neck, which, together with the other symptoms, will aid us materially in diagnosticating the intra-cranial phlebitis. But the phlebitis need not necessarily take this course; the emissary veins need not be implicated, and then, of course, the above symptom will not be observed.

Dr. J. Orne Green has recently published* an interesting account of four cases in which the diagnosis of phlebitis of the lateral sinus was chiefly based upon this induration and swelling in the tissues of the neck. All of the cases were fatal, and in the fourth case the autopsy was obtained and confirmed the diagnosis. In two cases there had been a discharge from the ear for many years, and the fatal phlebitis was developed in the course of an acute relapse of the suppurative inflammation; in two cases it followed an acute inflammation of the tympanum.

A very typical case of this kind was reported by me at the meeting of the Illinois State Medical Society in 1876.† The case took an unusually rapid course and sudden end; and as the

* *American Journal of Otology*, July, 1879, and April, 1880.

† Transact. of Ill. State Med. Soc. 1876, p. 89.

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transactions of the State society are accessible but to a very limited number, I will reproduce it.

"*Acute Suppurative Otitis; Phlebitis and Thrombosis of the Lateral Sinus; Death from Pyœmia.*

"Chas. L., forty-five years old, had always been in good health, except suffering from chronic catarrh of the naso-pharyngeal space and from a slight deafness. In February, 1876, he had an attack of acute catarrhal otitis, and a large syphilitic ulcer in the left tonsil. Both affections were speedily cured; but after taking cold again, he returned, on February 28th, complaining of great pain in the right ear. External ear and mastoid region showed nothing abnormal; meatus was wide and natural; membrana tympani intensely red. The weather being very unsettled, I advised the patient to remain in the house, and ordered leeches behind the ear, and hot water poultices.

"March 1.—Leeches gave great relief; but instead of warm water, dry compresses were put on the ear. During last night he had violent pain; no appetite; pulse 90; tongue coated; meatus so swollen that membrana tympani could not be seen. Mastoid region neither red nor swollen, but about the mastoid foramen there was a small spot which was exceedingly tender. Leeches again.

"March 2.—After the leeching the pain subsided, and the ear began to discharge. Still he was very restless last night. Meatus less swollen, filled with muco-purulent secretions; membrana tympani perforated. Morphia at eight.

"March 3.—Slept well and felt very much better, tongue cleaner, appetite improving; no pain in the ear or head; that tenderness about the mastoid foramen, and great restlessness his only complaint. He was up all day, took a light dinner and supper and retired about 9 o'clock feeling quite well. After midnight he complained of feeling chilly though the room had a very comfortable temperature; very soon after this he had a violent chill of half an hour, followed by high fever, quickened respiration and delirium. Towards morning he vomited several times and became comatose.

"March 4.—I found him in the following state: Pulse 120 and

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small; skin hot and covered with profuse clammy perspiration; face sallow; eyes widely opening and pupils dilated; did not recognize anybody, and was talking continuously. The discharge from the ear which was very copious last night had a chocolate color. No swelling of the mastoid region; but below it there was a diffuse, indurated swelling of the tissues and a redness of the integument of the neck; the induration followed chiefly the course of the internal jugular vein and was evidently very tender, for when I pressed on it the patient groaned. Respiration very quick, and superficial auscultation did not reveal anything abnormal. In this comatose state the patient continued until his death which occured in the afternoon.

"*Autopsy.*—Eighteen hours after death. The right side of the neck showed extensive redness of the skin and a diffuse swelling of the tissues. No œdema of mastoid region; but its subcutaneous tissues extensively reddened by hæmorrhagic effusion due to the leeching; periosteum and bone normal. Skull of normal thickness; sub-arachnoidean spaces contained some serum; pia mater hazy over both hemispheres; the veins filled by a very dark liquid blood. Substance of brain firm, its ventricles empty.

"The left lateral sinus in its entire length was filled with dark, liquid blood. In the right lateral sinus, as far as it runs along the petrous portion of the temporal bone, we found a greyish red thrombus which was firmly adherent to one side of the sinus and which could be traced down into the jugular foramen. The jugular vein was filled by a dense firm clot which presented the brownish granular appearance of a coagulum formed some time before death; the inner coat of the vein was red and slightly rough—indicating the existence of phlebitis. A section of the common carotid, several inches long, was removed, but it presented nothing abnormal. The petrous bone was red, but not softened or eroded. The mucous membrane of the tympanic cavity was intensely red; the cavity as well as the mastoid cells were filled with puriform matter."

Dr. Danforth submitted the brain to further macroscopic and microscopic investigations, and kindly furnished me with the following notes: "The right cerebral lobe was intensely congested in every part; the meningeal vessels were generally occluded by

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clots. The minute vessels of the pia mater and the more superficial vessels of the brain substance were very generally filled with a granular matter. This embolic condition was the rule in all the minute vessels of both hemispheres of the cerebrum."

In this case the different phases of the disease, from the simple acute inflammation of the tympanic cavity to the pyæmia, succeeded each other very rapidly, and the autopsy revealed the succession to have been as follows: acute suppurative otitis, involving early the mastoid cells; extension of the inflammation to the lateral sinus, which is separated from the cells merely by a thin osseous wall, perforated usually by numerous foramina, for the passage of minute veins from the cells to the sinus; phlebitis of the sinus and formation of a thrombus which extended into the jugular vein; pieces of this thrombus were torn off, broken up into small detritus while circulating with the blood, and lodged as numerous emboli in the smallest arterioles of the brain and meninges, causing instant coma and death.

F. C. HOTZ, M.D.

CHICAGO.

ARTICLE VI.

The Bromide of Ethyl a Disappointing as well as a Dangerous Anæsthetic.

One of the chief reasons, perhaps, that medicine has not kept pace with other scientific advances, as is so often charged, is partially because experimentation in this field is liable to be attended with injury to life or health, and hence it is not every physician who feels heroic enough to put his theories to practical tests either upon himself or his patients.

While progressive persons in scientific medicine, as in other branches, are honored for their courage and praised for their independence, yet if they were not restrained by over-careful conservatism at the other extreme, they might do incalculable harm from too impetuous rashness. And again upon the other hand, ultra conservatism instead of simply standing still as it does, is kept by the progressive iconoclast from sliding positively backwards. Thus the two opposites, by reacting upon each other, produce the

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vast middle class whose maxim in effect seems to be expressed by the poet's familiar lines:

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

In medicine it is through the careful plodding examination of this middle class that accumulated clinical testimony is obtained, and each new remedy, discovery or invention is ultimately, impartially branded in accordance with its attested merits. It is to offer my own experience, and my opinion therefrom, upon the bromide of ethyl that I make this report, so that when the sum total of testimony is made up we shall know whether the bromide of ethyl should be placed upon the shelf of usefulness, or consigned to the limbo of therapeutic oblivion—that Hades for "vaunted specifics."

For some months past the journals have contained a number of articles upon the subject of this new anæsthetic. Much has been said in its praise, and some little in its condemnation. It was so recently brought forward that very little could be said against it, as few knew anything practically about it. But when so great an authority as Dr. Turnbull and so eminent a surgeon as Dr. Levis united their voices in sounding its praises, the profession as one man stood breathlessly still and silently drank in with a willing and a listening ear all that was to be learned regarding a substance which was claimed to be superior to chloroform or ether, and which filled a requirement long felt, but never before met. Dr. Levis concludes his recommendation in these unequivocal terms: "I express my conviction that it is practically the best anæsthetic known to the profession."

After such an unqualified indorsement the great mass of physicians congratulatingly said to themselves, "What an excellent thing is the bromide of ethyl!" while surgery smiled a sad quiet smile of blissful satisfaction.

The bromide of ethyl was said to act speedily; to produce little or no nausea; to pass off quickly; to influence respiration but little; to affect the circulation but slightly; and to cause but trifling general excitement, less even than chloroform; and last, though not least, to be free from danger. Free from danger!

Believing and expecting to realize at least a part if not the

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whole of these desirable conditions—a sort of anæsthesia made easy, as it were—a four-ounce bottle of John Wyeth & Bro.'s ethyl was procured, for which two dollars were paid—being a higher rate than is charged for the best chloroform—and following strictly the directions for administration as given by Dr. Levis, everything was in readiness for the trial, the result of which was to give such pleasure to the patient and such satisfaction to the operator.

The bromide of ethyl was given at separate times to two females, both being patients selected from the pratice of Dr. A. Reeves Jackson, and were deemed by Dr. Jackson and myself as good subjects upon which to fairly try the qualities of the anæsthetic.

It is not necessary that both cases should be recited, since one is a counterpart of the other, with the single exception that the first patient, after twenty minutes inhalation, exhibited bad symptoms and retained partial consciousness, so that the ethyl was abandoned for ether, which acted promptly and efficiently; while the second woman, the one I shall speak of on account of the sequel, knew what was going on around her after a trial of thirty-five minutes with ethyl, during which time alarming symptoms several times occurred. In this case also ether was substituted, which produced unconsciousness in about the usual time.

This second patient, whom I shall designate as Mrs. C., was to be operated upon by Dr. Jackson for uterine trouble. She was about 34 years of age, and not specially timid or nervous. She had eaten nothing upon the day set apart for the operation, and breathed the vapor of ethyl as well as persons commonly take anæsthetics; therefore the unfortunate result was no fault of hers. I gave the anæsthetic with unusual care and attention to every detail, therefore I think no just blame can be attached to me. Wyeth & Bro.'s goods are celebrated for their excellence, and this preparation of their house is specially commended by Dr. Levis himself, therefore it is evident that no blame should be attached to the chemist. It would seem, then, that the only fault was in the anæsthetic itself, and this I believe to be the fact.

But let us see how it acted, comparing the actual with the attributed results:

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Its "speedy action" can hardly be said to be invariable, since twenty minutes in one case and thirty-five minutes in the other were consumed without producing unconsciousness.

So far as not producing much sickness is concerned, I never witnessed more intense and persistent nausea, or more racking retching by any anæsthetic before.

"Its effects pass of quickly." This I freely admit, "much too quickly." The very rapidity being a serous objection to its employment. A good prolonged fit of vomiting, such as the bromide of ethyl possesses the secret of occasioning—is very apt to be attended by a return to consciousness nearly before the patient is quite through the act.

"It only slightly affects the circulation." The pulse went up to a hundred and twenty, and did not fall much below, while the face became livid, the eyes deeply, dreadfully injected, and the veins of the head, face and neck were full and tense. So much congestion I never saw produced by an anæsthetic.

And as for the respiration, it was difficult and labored, and there was considerable rigidity, particularly about the chest walls, and at times approaching asphyxia seemed imminent.

If the general excitement caused by the bromide of ethyl is but "trifling," and what I witnessed was a trifling manifestation of its power proportionately reduced to suit female delicacy of structure and temperament, then I trust that I shall never be called upon to administer it to any full sized, vigorous, muscular mariner, in good fighting physical trim and in the usual blasphemous frame of mind.

And lastly it is said to be safe. Nothing that produces such conditions as were produced can ever be safe; nothing which presented such a picture of venous and pulmonary engorgement as was manifested in these women can possibly be safe. I have administered chloroform and ether in both hospital and private practice, and have been present on numerous occasions when these anæsthetics were given, but I never yet saw such dangerous and distressing symptoms produced as were developed under the bromide of ethyl. But further than this, let us inquire into its safety. It has been used but a short time—I think I may safely affirm that it has never been generally employed—and yet we

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have already two recorded deaths, which prove it to be, for the use it has received, one of the most dangerous anæsthetics known to modern medicine. One of the fatal cases, a woman, was reported by Dr. Hine, and the other, a young man of 18 years of age, occured in May last at the clinic of Dr. Levis—the guide, philosopher, and friend of "the best anæsthetic known to the profession." This last young man, the post-mortem disclosed, had "diseased brain, heart, lungs and kidneys." He had too much, for he had also a stone in the bladder, and—bromide of ethyl.

Now a word as to the comparative merits of the anæsthetics to show that there was no idiosyncrasy. It so happened that Mrs. C. required a secondary operation which was performed a few weeks after the one to which I have alluded. Ether was given, and in thirteen minutes from the commencement, without a single alarming symptom, without excitement, and without nausea, she was completely anæsthetized and ready for the operating table.

JOSEPH C. MOORE, M.D.

CHICAGO, July, 1880.

ARTICLE VII.

Epidemic Conjunctivitis.

I have lately met with a number of cases of inflammation of the conjunctiva, which, in some respects, differ from ordinary conjunctivitis.

These cases seem to be the results of some epidemic influence. Persons are attacked without having in any way changed their usual habits of life or been exposed to cold, dust, contagion or any other discoverable cause.

The onset of the disease is tolerably rapid. The first symptom is a slight feeling of irritation at the inner canthus of one eye, with a slight injection of the vessels. The injection increases rapidly, and, in from six to eight hours spreads over the whole conjunctiva, the redness does not, however, become so intense as to prevent the white sclerotic from shining through. The feeling of irritation does not increase with the redness, it rather grows less, and there is never found during the whole course of the disease

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the feeling of sand or sticks in the eye, so characteristic of ordinary conjunctivitis.

Very soon after the first sign of redness of the conjunctiva, a creamy, yellowish-white discharge appears. At first this is scanty and lies in little rolls in the palpebral folds. These rolls are forced out by the movements of the lid and cause considerable annoyance by coming in front of the pupil and obstructing the field of view, sometimes the discharge is spread in a thin layer over the front of the cornea. This can easily be removed and then the vision appears to be as good as ever until it re-appears. Seen under the microscope the discharge shows all the characteristic of ordinary pus. Soon after the beginning of the discharge the lids begin to swell, sometimes swelling enough to close the eye.

At first there is no apparent interference with vision except the mechanical ones first mentioned, but after a few hours a mist before the eye begins to be noticed after looking intently at any object for a short time. This fog can be dissipated by an effort or by the appearance of any object which strongly fixes the attention, but reappears much more dense in a short time, or when the attention is relaxed. After resting the vision becomes clear again.

If the attempt is made to continue the use of the eyes after the appearance of the fog, a feeling of fatigue is experienced which soon increases to one of actual pain. After a few hours, vision becomes so indistinct that it is difficult to see minute objects clearly and larger ones appear to be surrounded by a halo and more or less of a fog envelops every thing. By a strong effort of attention this fog can be partly dissipated but not entirely.

In from two to three days the swelling of the lids disappears, the discharge and injection of the conjunctiva remain for a week or so longer. The difficulty of using the eyes, however, remains for a considerable time after all other symptoms have dissappeared.

In some cases the swelling of the lids and the discharge is less but there are paroxysms of pain in the eye. These paroxysms have a certain periodical character, the patient being free from them for a considerable portion of the day, but feeling them come on at some pretty definite time, usually late in the afternoon. Some of these cases are troubled with double vision, or rather multiple vision, seeing many objects, half a dozen in some

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cases in place of one. Occasionally there is a sort of photophobia. Such patients prefer to be in a darkened room, a slight increase in the intensity of the light causes a sensation of not exactly pain but rather of dazzling, as from a very bright light.

I have seen cases in which the trouble was confined to one eye, especially in the lighter cases; but usually in a few hours after the beginning of the trouble in one eye, it appears in the other also, running the same course though often somewhat lighter.

The cases seem to be accompanied with no special derangement of health, so far as I can discover.

I have heard of these cases in almost every quarter of the city. And lately, on a visit to central New York, I learned that there had been a number of similar cases there.

The treatment that has seemed to succeed best has been the instillation of a solution of borax in rose-water or in ordinary distilled water, of the strength of ten grains to the ounce, every two or three hours. The addition of a little atropia seems to relieve the cases attended with pain. LESTER CURTIS.

No. 1558 WABASH AVENUE, CHICAGO, July, 1880.

ESSENCE OF WINTERGREEN AS AN ANTISEPTIC.—M. Perier. (*Journ. de Méd.*, May, 1880.)—The essence of wintergreen, on account of its powerful antiseptic action and its agreeable odor, is recommended by M. Perier. He uses it mixed with vaseline, 1 part to 100, for lubricating instruments, and his hands for vaginal examinations, and prefers it to carbolic acid. He also uses a solution of it for bathing wounds and for simple dressings.

REMEDY FOR ACUTE CORYZA.—M. Yron. *Journ de Méd.*, May, 1880.—The author recommends the following powder to be used as snuff:

Subnitrate of bismuth.....20	grams.
Powdered benzoin.....10	"
Tannin 4	"
Chlorhydrate of morphine..... 0	10 centigrams.

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Society Reports.

ARTICLE VIII.

THE MICHIGAN STATE BOARD OF HEALTH.

The regular quarterly meeting of this board was held at their rooms in the State Capitol, at Lansing, on Tuesday, July 13th, commencing at 9 o'clock a. m. The following members were present: Dr. R. C. Kedzie, president, of Lansing; Rev. Dr. D. C. Jacokes, of Pontiac; Dr. Henry F. Lyster, of Detroit; Dr. J. H. Kellogg, of Battle Creek and Dr. Henry B. Baker, secretary.

Dr. Lyster called the attention of the board to syphilis, a disease to which but little attention was paid by sanitarians, but which causes much sickness and many deaths in this State. He was requested to prepare a paper on the subject and present it at the next meeting of the board.

The resignation of Dr. H. O. Hitchcock, of Kalamazoo, as a member of the board, and the appointment of Prof. E. A. Strong, of Grand Rapids, by the governor, were announced and the following resolutions were adopted:

Resolved, That in the retirement of Dr. Hitchcock from membership in this board, the board loses one of its most efficient and distinguished members.

Resolved, That the individual members of the board regret the personal separation thereby entailed, and extend to the retiring member their best wishes for his continued prosperity.

A letter from Dr. Hitchcock commended very highly his successor, Prof. Strong, as also did other members.

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BOARD OF HEALTH IN DETROIT.

The secretary presented a communication from F. G. Russell, city attorney of Detroit, suggesting that the state board address a letter to the mayor and aldermen of that city, recommending the organization of a board of health, and the appointment of a health officer.

Dr. Lyster said there was no way of getting reliable statistics relative to sickness and mortality in Detroit. The record of interments is the only source of information, and is not reliable, as the reports of the city clerk are voluntary, and there are many interments (especially of Israelites) outside the city. The old board of health was not efficient because unwieldy, but the "sanitary squad," of the police force, does some efficient work in enforcing the ordinances relative to garbage, etc. The city police, however, oppose the appointment of a health officer, fearing it will interfere with the work of their "sanitary squad." It was suggested that perhaps the people of Detroit did not wish the real facts relative to sickness and death disclosed. Drs. Lyster and Baker were appointed to prepare a plan for a board of health in that city and endeavor to secure its adoption.

SICKNESS AND PAUPERISM.

A communication was presented from Hon. H. W. Lord, secretary of the state board of corrections and charities, relative to pauperism as a result of sickness. After some discussion relative to the amount of pauperism caused by sickness, and the extent of the field over which a study into the subject should reach, a committee was appointed to investigate the subject, to be known as "the committee on the relations of preventable sickness to taxation," with Dr. J. H. Kellogg as chairman.

SANITARY SCIENCE EXAMINATIONS.

The remainder of the forenoon session was principally occupied with routine work and the perfection of details for examining and marking the standing of candidates in the examinations in sanitary science inaugurated the following day, and which require: "The replies on each set of topics shall be marked on a scale of 10, and an average standing of 70 per cent. on all topics shall be

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necessary in order to pass the applicant." One who successfully passes the examination receives a certificate that he is considered qualified to act as health officer of any township, city or village in Michigan.

A paper on "unsanitary conditions in our schools," by G. E. Corbin, M. D., of St. Johns, was read. The paper consisted of details of overcrowding, bad ventilation and the sickness resulting therefrom, which came under his personal observation. The paper will be published in the report for 1880.

Two valuable papers by A. W. Nicholson, M. D., of Otisville, were presented. One was on "ozone," and contains details of numerous experiments, and one on "periodic fever," containing detailed records of cases and coincident meteorological conditions. The papers were accepted with thanks, and ordered printed in the annual report for 1880.

SANITARY CONVENTIONS.

The secretary reported that he had edited and prepared for publication the proceedings, etc. of the sanitary conventions held at Detroit and Grand Rapids during the past winter, and the copy was in the hands of the printer.

ADULTERATIONS OF FOODS.

Dr. Kedzie said he had received a request from gentlemen in Chicago to enter upon an investigation of adulterations of foods, and had replied that the board had no funds. He stated that the adulteration of sugar with glucose was increasing rapidly, and was being done more skilfully; that adulteration with pure glucose did not endanger health, but the sugar was not so sweet. The manufactured glucose, however, was unhealthful to take into the stomach, because of poisonous substances which are always associated with it. Dr. Lyster said a prominent candy dealer had informed him that all candies, except rock candies, were composed in part of glucose. Dr. Kedzie said nearly all syrups were made from glucose.

The board performed a large amount of routine work, such as auditing of bills, and adjourned until October 12, 1880.

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Foreign Correspondence.

ARTICLE IX.

Messrs. Editors:—Rammatous hospital, founded in the year 1423, is to-day the largest and the oldest hospital of Genoa, Italy. Broad and high wards, good ventilation and plenty of light form its principal features. Although capable of holding nearly three thousand beds, another is in progress and almost completed, in a higher and healthier part of the city, at a cost of two millions of francs, kindly donated by the Duchess of Galliera, for such purpose. This is to be superior to any other hospital now existing in Italy, if not of Europe. The hospital abounds in plenty of material, medical as well as surgical and obstetrical, as is always found in the principal sea-ports. Clinics are given daily, and not being supplied with a suitable amphitheater the students are brought at the patient's bedside, where can be learned and studied fully and to better advantage the different ailments of mankind, many of which present special interest. I find in my notes a list of many interesting cases and opinions pronounced by the several professors, and selecting some of them I shall endeavor briefly to describe them to my medical colleagues.

The Medical Clinic is ably conducted by Prof. E. DeRenzi, the most talented and eloquent speaker of the faculty. During the past year he has presented at the clinic many remarkable cases, some of which he himself has published, and I have had occasion to note. Several have been cases of hemiplegia, and therefore a special attention was paid to the localization of the function of the faculty of language, for many patients presented a persistent or a temporary loss of speech. Such seat was determined by a series of uninterrupted studies and researches that began in our

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century with the phrenological doctrine of Gall, Spurzheim and Combe, to terminate lastly with the studies of Broca, of Tamburini and of Ferrier. About the beginning of this century Gall, Spurzheim and Combe admitted the seat of speech to the cerebral convolutions situated above the posterior portion of the supra-orbital lamina. In 1825 Bouillaud distinguished amnesic aphasia from ataxic, and laid the seat of the faculty of speech in the anterior lobes of the brain. In 1836 Dr. M. Dax demonstrated at the medical congress, held at Montpellier, that the faculty of speech does not occupy both the anterior lobes of the brain, but exclusively the left anterior. E. Broca in 1861 laid it in the posterior part of the third left frontal circonvolution. The studies of Dax's son, who admitted the lesion of aphasia to the anterior and external portion of the left middle lobe, does not modify radically the precedent doctrine. A case of permanent aphasia, and several of transitory aphasia were observed in clinics, and from them it is easy to make two deductions of no little interest for the localization of the faculty of speech.

A case of permanent aphasia was observed in a patient brought to the hospital deprived of speech and affected with right hemiplegia. The intelligence was disordered, he perceived tardily and imperfectly. By the movements and by the sounds that he uttered, he showed that he yet preserved the perceiving faculties. Sight intact, and the pupils reacted normally to the influence of light. The hemiplegia at the right was well marked, the muscles paralyzed and contracted. The muscles of the right side of the face were totally paralyzed and had lost their tonicity. Patient somewhat reacted under the remedies, but grew worse and lastly was found in a state of complete coma, flushed face and temperature much higher; this state lasted two days, until finally the patient died. At the autopsy were found two hæmorrhagic clots in the brain, seated in the left circumvolution of the corpus callosum, a centimeter and half behind its frontal extremity. The second corresponded to the external portion at the inferior extremity of the left ascendens parietal circumvolution, which was considerably larger than the right one. The same hæmorrhagic clot extended deeply in the median portion of the white matter of the cerebral hemisphere, and was situated in front and to the left, immediately

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beneath the island of Reil. This history which I have briefly described, shows in a clear and precise manner that a circumscribed lesion in the left cerebral hemisphere is sufficient, undoubtedly, to determine the loss of speech (aphasia). The seat of lesion in correspondence with the island of Reil, and at the point where pass the fibers arising from the posterior extremity of the third left frontal convolution, confirms the opinions of M. Dax and of Broca on the seat of the faculty of speech. In four other patients with cerebral hæmorrhage, in only one was found complete and permanent aphasia, and this is the above described case with right hemiplegia, and the apoplectic clot at the left. In other patients with temporary and incomplete aphasia, the hæmorrhagic lesion was found to the right, and the paralysis at the left. This sustains, to a certain degree, the opinion of Dax, who seated the seat of speech in the left cerebral hemisphere. A transitory aphasia hardly ever fails to manifest itself after the hæmorrhage in the right cerebral hemisphere that takes place near the psycomotor center of the facial. In private practice the professor said he had had occasion to notice complete aphasia, though transitory, in cases of hæmorrhage, which evidently had their seat in the right cerebral hemisphere. These cases, which are numerous and evident, bring us to the conclusion that the doctrine of Dax, Charcot, Falret, Broca, Hammond, etc., on the exclusive seat of the faculty of speech in the left cerebral hemisphere is incomplete. To assure ourselves in all clinical cases of permanent and transitory aphasia, complete and incomplete, we must admit two centers of the faculty of speech, situated one at the right and one at the left in symmetrical parts of the two cerebral hemispheres, the posterior part that is of the third frontal convolution, and the convolution of the island of Reil. The left center, in connection with the greater importance of the left cerebral hemisphere, requires a more considerable development and has a preponderating influence on the formation of speech, so that the destruction of the center of the seat of speaking, that is located in the right hemisphere, cannot cause the definitive and complete loss of such faculty; on the contrary, by the laws of compensation and adaption, which are most evident in physiological experiments and in the pathology of the cortical centers, the faculty of language very soon re-

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appears normal as before. And respecting this the professor communicated an observation, not to be contradicted by further researches, because he had constantly verified it in numerous cases of cerebral hæmorrhage examined by him. That observation is that in all cases of hæmorrhage of the right cerebral hemisphere accompanied with marked paralysis of the facial, there exists also undoubtedly a temporary loss of speech. On the other hand, because of the greater development that the center of speech has in the left hemisphere, a lesion of such center produces the aphasia in a persistent and irreparable way. The predisposing influence of the left cerebral hemisphere in no other function shows itself more evident than in the formation of language. The explanation ordinarily given for this prevalence, not accounting the theories of Broca, Hammond, etc., consists in admitting that the prevalent use of the right hand is the cause of the greater development of the left hemisphere where terminate the nervous fibers of the right superior limb. Obernier says: (*Geschülste des Gehirns*) "Before learning how to call things with words, we habituate ourselves to indicate them with gestures of the right hand; moreover we learn with the indication of the right hand to spell words on tables, on books, and in consequence to designate things; and when in consecutive life we want to give brief commands, we express them not with words but with movements of the right hand, and when we want to speak with clearness we accompany the words with movements of the right hand; and lastly, in place of pronounced words we appropriate very often words written with the right hand."

Ferrier, in his *Pathological Illustrations of Brain Function*, speaks in the following terms: "The left hemisphere, as the right side of the body, is the conducting and impelling side; so that a lesion at the left side is the same as the loss of the right hand. A longer education is required to habituate the person to complete with the left hand all those delicate operations that could be completed easily with the right hand." Now that the education and the exercise of the right hand are not the only causes, nor the principle of the prevalence of the left hemisphere, the professor proved easily, by the history of a patient at the clinic, who was precisely left handed and therefore habituated to

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do all her delicate work with the left hand. In this case by the lesion of the right hemisphere, if the theory of Obernier, Ferrier, etc., were correct, we would have found a persistent aphasia, or at least greater than the one verified, because the prevalent action of the left hand, would have determined a predominant development in the right hemisphere. So that besides the prevalent exercise of the right hand we have another cause for the development of the faculty of speech in the left cerebral hemisphere, and this cause consists probably in a congenital or hereditary disposition. For many generations the exercise of the right hand provokes a larger development of the left hemisphere, and such development reproduces itself hereditarily in the same manner that in sons and nephews are reproduced some peculiarities that were noticed in the organic type of their forefathers. Only as favorable conditions to the development of the left hemisphere, but surely as principal causes of the seat of the faculty of speech in the same hemisphere, the professor also cited the greater quantity of blood and the precocious development of the left half of the brain.

Milk cure, grape cure and all other cures have been tried a good deal at this clinic, but at present I shall only describe the results obtained by the milk cure in cirrhosis of the liver, and acute articular rheumatism. In the former affection the results have been very encouraging, and is particularly commended while the disease is in its first stage. Its prognosis is considered by many authors, especially by Thierfelder, Lebert and Frierichs, fatal, death being inevitable. Jaccoud, Kunza, Bamberger, Surre, etc., have the same opinion, while F. Niemeyer says that diagnosticating the disease in its first stage we may attempt to arrest its progress. Most writers on disease of the liver rarely or never mention the milk cure, while a good deal of space is wasted in speaking of other remedies, which daily experience has shewn to be inefficient or even hurtful. Milk in cases of cirrhosis is one of the best of remedies, and when early used has given in this clinic many curative results. It increases the urinary secretion, almost to a true polyuria, takes away the venous stasis and provokes the disappearance of the ascites and of the œdema of the inferior extremities. Moreover it is an aliment easily digested

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and overcomes the globular anæmia. In this manner keeping up the general condition of the patient, the collateral circulation is developed.

Acute articular rheumatism has been subjected to a like cure. Tripier, Besnier and Biot have recognized the value of the milk diet to overcome the affection. Since 1869 Dr. Tripier, of Lyons, has used the lacteal cure as the most efficacious remedy in rheumatism, and ever since has used it with marked success. This year Dr. Biot has published in the *Revue Mensuelle de Médecine et de Chirurgie*, a long article in which he demonstrates with many practical arguments, that milk rapidly shortens the term of treatment, and in the space of three to eight days calms the rheumatic pains. Moreover, milk increases the quantity of urine and the secretions of all salines, the urates particularly. This treatment must be used only in acute articular rheumatism; the sooner the better. Salicylate of soda is used with it, and the professor thinks it opportune to use the two remedies contemporaneously. The milk with the salicylic acid will correct the effects of the disease and of the remedy, which latter are favorable to the development of globular anæmia. Tripier finds no contra-indication in the contemporaneous use of the remedies. He, however, while attributing the principal action to the milk, recognizes the salicylic acid only as an analgesic. In fact the acid, besides its sedative action on the pain, has an important influence on the fever, which is one of the principal elements of the disease; therefore it will be useful to prescribe at the same time the salycilic acid and the lacteal treatment. Wishing to use only one of the remedies, Prof. DeRenzi thinks the lacteal treatment is to be preferred by all means to the salicylic acid, when the articular rheumatism is associated with some heart affection.

A. LAGORIO, M.D.

CHIAVARI, Italy, June 1, 1880.

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Domestic Correspondence.

ARTICLE X.

BOSTON LETTER.

Messrs. Editors:—At this season of the year you cannot reasonably look for medical news of such freshness as the breezes we would welcome if we could find them. Our Canadian weather prophet has been so desperately exact in his prognostications, that we have not only had the torrid "spell" he so confidently predicted, but weather of such intensity that Dante's Inferno is nothing to it. Strangely enough, however, sickness does not seem to be very rife. The wealthy have gone to the sea and the hills. The poor live out of doors, and the blessed agency of constant inhalation of pure air, the ease with which, for one horse-car fare, they can reach City Point, half way down the bay, and the charitable picnics and steamer excursions for the children, all have their influence in keeping, and even renewing, the health of these city-bound people. We have our share of sunstrokes, but the sufferers being for the most part men who are intemperate, we feel that the effect of the sun upon them is pretty generally their fault. It is rather odd that the east wind, so disagreeable in early spring and such a beneficent guest in the warmer days, has for the past three weeks, our heated term, almost literally been absent. The prevailing winds have come from the south, and our sufferings have thereby been equal to those of Charlestonians, in whose city, one day this week, the mercury ranged two or three degrees below our figures.

Last winter I quoted the charitable remarks of a member of our Suffolk District Society (not "Historical Society," as your types made me say), in relation to the proposal of the faculty of

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Harvard Medical School to erect a new college building. I have remarked, by the way, that this gentleman's opinion of the faculty, all unjust and unreasonable as it was, has been quoted from my letter by Western journals without the context which should have given it its proper value. When I wrote the letter to which I refer, it was supposed that the ground occupied by our old Cochituate reservoir was the chosen site of the new building. The faculty of the school, however, have done a wiser thing. The corporation of the University has secured from the State of Massachusetts the westerly half of a square on what we term the "back-bay lands." It contains 33,000 square feet, and being much more centrally located than the present building, will be far easier of access. Moreover the new structure will stand about half way between the City and Massachusetts General hospitals. For teachers and students this will be a great advantage in the saving of time. It will also be an ornamental addition to the fine buildings, the old South Church, the Museum of Fine Arts, Trinity Church, the buildings of the Boston Society of Natural History and the Institute of Technology, which stand in close neighborhood. The Medical Library on Boylston place and the Public Library, which contains a fine collection of medical works, will also be in close proximity. Many of the students of the literary department of Harvard University from time to time attend certain of the clinics and lectures of the Medical School. So soon as the new bridge over Charles river is completed they can more quickly reach the new building than the old. It is thought that the centennial celebration of the foundation of the Medical School (1782), will occur in the new structure. It will be worthy of its surroundings and its accomodations will fully meet the needs of the constantly increasing classes which avail themselves of the advantages of this school. No professional department of the University has enjoyed a more prosperous career than has the Medical School. Hardly a medical specialty can be named that cannot be studied here. The corps of instructors has been much enlarged and the ground now covered requires so much time that the faculty have been led to announce an important change in the plan of study. The present curriculum has received several years of fair trial, and

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has proved a gratifying success. But in spite of the increased amount of time given to the course, it was soon found that three full academic years were insufficient to complete the various branches of instruction. For this reason the faculty have matured a plan—the announcement of which you may have seen—a plan which covers four years, and at present is elective. Matriculates who do not choose to make use of it can adopt the old three years' course which, as yet, has not been altered in any respect. It might have been wiser on the part of the faculty if the new plan had been announced as obligatory. Such a decision would have met with warm approval and undoubtedly would have proved a success. The new plan will go into operation at the beginning of the next session. For details of the course I must refer you to the prospectus of the school. I will merely add that such students as follow the three years' plan will receive their diplomas as usual, while such as adopt the new course, complete four full years of study and obtain an average of 75 per cent. in all the examinations, will take the degree of Doctor of Medicine *cum laude*. Another refinement has been made in increased stringency of the preliminary examination. In order to be allowed to matriculate, a candidate must pass an examination in English composition and dictation, must translate easy Latin prose, have a complete knowledge of physics and show familiarity with either French, German, elments of Algebra or of plain Geometry, and Botany. These are elective branches.

When it is remembered that the new course of study is the minimum of that exacted in Europe, one cannot see why it should not be welcomed by all ambitious students. It entails self-exertion and self-discipline which will lay a solid foundation for a successful future.

It should be known that at the Harvard Medical School a student can now acquire an education which will preclude the necessity of European study. This will afford valuable advantages to men who have not the means to go abroad. There are teachers who are strong opponents of medical study in Europe. They say it is unnecessary for Americans to leave this country to obtain a professional education. In one sense this is true, for all requisite knowledge can be obtained here. But a broader

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opinion would be that a year or two spent in European clinics and hospitals would give a student greater breadth of view and more liberality of thought; he widens the scope of his mind by placing himself under the teaching of men whose mental influence is far different from that of American teachers. Moreover, he sees an immense quantity of clinical material, and becomes familiar with cases which he might not meet in the more limited number of patients seen at home. He becomes familiar with one or two new languages, and likewise with certain specialties which are more thoroughly taught in the complete splitting up of medicine in Europe, than in this country. In short, he not only becomes more finely educated, but acquires a politer culture than if he went into practice directly from an American school. I have always thought, however, that a Continental course of instruction may be made much more useful in a practical sense, if the student has already had sufficient experience in practice at home to have discovered just what he especially needs. He can then make a wiser use of his time while abroad. Desultory use of clinics and hospitals is not beneficial. The student must have a plan and follow it without deviation.

The annual meeting of the Massachusetts Medical Society, held a month since, was remarkably uneventful. The Councilors' session usually develops human nature to a marked degree; but on this occasion everything was calm and placid. No questions of burning interest were brought up. The election of officers, however, was made peculiarly interesting by the fact that the next annual meeting of the society will also be its centennial anniversary. The choice of president, orator and annual chairman (who presides at the dinner), was made with direct reference to the nature of the meeting. Dr. H. W. Williams was made president, Dr. J. Collins Warren orator, and Dr. J. C. White annual chairman. The only ripple at the recent meeting was caused by a very energetic Fellow, who laid the wires for the reintroduction of the woman question next year.

You have heard of the attempt last spring to pass, through the legislature of this State, a bill regulating the practice of medicine. The bill, if it had passed, would have disposed of our horde of quacks and charlatans. It was defeated, and the genus

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quack still holds undisputed sway. When the proposed law was first made known, it met with an earnestness of welcome which made it seem a success. Few would have dared wager that it would be defeated. It received the sanction of most of our leading physicians. But a minority opposed it strongly on the ground that it gave too much recognition to homœopaths and eclectics, each of whose schools were to be represented on the proposed State board of examiners. This opposition won friends so rapidly that pretty soon the bill seemed to have but few supporters. Even those who favored it, many of them, turned against it, and it failed. We are annoyed and harassed by quacks. They exist in large numbers. Of course the physicians and all well-minded citizens wish to drive them from the State. Sooner or later there will be drafted a bill which will rid us of this outrageous incubus. * *

BOSTON, July 18, 1880.

CHRONIC URETHRITIS TREATED BY INJECTIONS OF WATER SATURATED WITH TINCTURE OF IODINE.—Dr. Masurel. *Bull. Méd. du Nord.* and *Revue Médicale*, Jan. 3, 1880, p. 20.—Two injections are made the first day with an interval of 12 hours between. The next day there is but slight discharge, and a second injection may be given or not; the third day a new injection should be given and the patients are cured. Exceptionally a fourth injection has been given, but if it does not succeed something else should be tried.

POMADE FOR THE SPOTS OF PREGNANCY.—Neumann. *L'Union Médicale*, No. 59.—Chrysophonic acid, 1 gram; Lard, 40 grams; mix. The skin is cleaned with soap and water and then annointed with the ointment, a cloth being laid over to prevent it from running. Three or four applications are made, at intervals of two days, care being used to avoid the eyelids and to not use too strong an ointment for delicate skins. The regions covered become red, then black; the skin desquamates and the spot disappears.

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Reviews and Book Notices.

ARTICLE XI.—A SYSTEM OF MEDICINE. Edited by J. Russell Reynolds, M.D., F.R.S., Fellow of the Royal College of Physicians of London; Fellow of the Imperial Leopold-Carolina Academy of Germany; Fellow of University College, London; Professor of the Principles and Practice of Medicine in University College; Physician to University College Hospital; Examiner in Medicine to the University of London. With numerous additions and illustrations, by Henry Hartshorne, A.M., M.D., Fellow of the College of Physicians of Philadelphia; formerly Professor of Practice of Medicine in Medical Department of Pennsylvania College, and Physician to the Episcopal Hospital of Philadelphia; lately Professor of Hygiene in the University of Pennsylvania, and Professor of Hygiene and Diseases of Children in the Woman's Medical College of Philadelphia, etc., etc. In three volumes. Philadelphia: Henry C. Lea. 1879.

This is a voluminous work, comprised in three large volumes of about eleven hundred pages each, published in the usual good style of the well-known publishing house of Henry C. Lea. It consists largely of a republication of a work that originally appeared several years since, made up of articles from a large number of eminent English writers, and edited by J. Russell Reynolds, M.D., of London, England. The present work is not a new edition of the original, revised by the several authors contributing to it, for many of those are dead; but a republication of the original text, with notes by the English editor, and still more numerous and important notes and additions by the American editor, Dr. Henry Hartshorne, of Philadelphia. It embraces

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articles from no less than sixty-five contributors on as many different diseases or groups of disease. The English editor classifies diseases primarily into general and local. The first are such as involve disturbance of all the functions of the system, and the second such as are located in some structure or organ primarily, and induce general disturbance only as a secondary result.

The first volume contains an introductory article by Dr. Reynolds, and the several papers on general diseases, and also those on diseases of the nervous system. The general diseases are divided into, first, "those determined by agents operating from without;" and, second, "those determined by conditions existing within the human body." In the first division are included influenza, whooping-cough, diphtheria, scarlet fever, dengue, roseola, measles, rötheln, parotitis, sudamina and miliaria, varicella, smallpox, vaccination, glanders, hydrophobia, enteric or typhoid fever, typhus fever, relapsing fever, yellow fever, epidemic cerebro-spinal meningitis, the plague, erysipelas, pyæmia, malarial fevers, dysentery, epidemic cholera, and constitutional syphilis. In the second division are included scorbutus, purpura, chlorosis, rickets, scrofula, gout, rheumatoid arthritis, rheumatism and gonorrhœal rheumatism. Three of the diseases just mentioned—namely: rötheln or German measles, scrofula and chlorosis—have been added by the American editor. The essays on those diseases termed general, occupy the first 579 pages of the first volume of the work. The next 500 pages, completing the volume, are occupied with the consideration of affections located in the nervous system. In this part are found insanity, hypochondriasis, hysteria, ecstasy, hystero-epilepsy, catalepsy, somnambulism, sunstroke, alcoholism, vertigo, chorea, paralysis agitans, athetosis, writers' cramp, convulsions, epilepsy, muscular anæsthesia, wasting palsy, metallic tremor, simple meningitis, tubercular meningitis, chronic hydrocephalus, meningeal hæmorrhage, congestion of the brain, cerebritis, softening of the brain, adventitious products of the brain, cerebral hæmorrhage and apoplexy, abscess of the brain, spinal meningitis, myelitis, congestion, tetanus, locomotor ataxy, neuritis and neuroma, neuralgia, local paralysis from nerve disease, local spasm, torticollis, and local anæsthesia.

The second volume, containing 935 pages, is occupied with the

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consideration of the diseases of the respiratory and circulatory systems of organs. Diseases of the Larynx are treated by Morrell Mackenzie, M.D.; Croup, by William Squire, L.R.P.C.; Emphysema of the Lungs, by Sir William Jenner; Asthma, by Hyde Salter, M.D., F.R.S.; Phthisis Pulmonalis, by J. Hughes Bennett, M.D., F.R.S.; Cancer of the Lungs, by Herman Beigel, M.D.; Pneumonia, Syphilitic Affections of the Lungs, and Brown Induration of the Lung, by Wilson Fox, M.D., F.R.C.P.; Cirrhosis of the Lung, by H. Charlton Bastian, M.D., F.R.S.; Apneumatosis, by George Hewitt, M.D., F.R.C.P.; Bronchitis, by Frederick T. Roberts, M.D.; Pleurodynia, Pleurisy, Hydrothorax and Pneumothorax, by Francis E. Anstie, M.D., F.R.C.P.; On the Weight and Size of the Heart, Lateral or Partial Aneurism of the Heart, and on Adventitious Products in the Heart, by Thomas B. Peacock, M.D., F.R.C.P.; On the Position and Form of the Heart and Great Vessels, Pericarditis, Adherent Pericardium, and Endocarditis, by Francis Sibson, M.D., F.R.S.; Pneumo-Pericardium and Hydro-Pericardium, by J. Warburton Begbie, M.D.; Angina Pectoris and Allied States, by Prof. Gairdner, M.D.; Carditis, Atrophy of the Heart, Hypertrophy, Dilatation, Fatty Diseases, and Fibroid Diseases of the Heart, by W. R. Gowers, M.D.; Diseases of the Valves of the Heart, by C. Hilton Fagge, M.D., F.R.C.P.; Mediastinal Tumor, Diseases of the Aorta, Aneurism of the Thoracic Aorta, Diseases of the Pulmonary Artery, and Diseases of the Coronary Arteries, by R. Douglas Powell, M.D., F.R.C.P.; Aneurism of the Abdominal Aorta, by William Murray, M.D., F.R.C.P.; Diseases of the Arteries and Veins, Cardiac Concretions, Thrombosis and Embolia, by John Syer Bristowe, M.D., F.R.C.P.; Hæmophilia, by Henry Hartshorne, A.M., M.D.; and Inflammation of the Lymphatic Vessels, by J. Russell Reynolds, M.D., F.R.S.

The third volume comprising nearly 1000 pages, treats of the "Diseases of the Digestive, Blood-Glandular, Urinary, Reproductive, and Cutaneous systems." The contributions on Diseases of the Stomach, by Wilson Fox, M.D., F.R.S.; Diseases of the Mouth, Fauces, Pharynx, and Œsophagus, by Charles E. Squarey, M.B.; Enteralgia, Peritonitis, Diseases of the Spleen and Pancreas, by John Richard Wardell, M.D., F.R.C.P.; Enteritis, Obstruction

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of the Bowels, Ulceration of the Bowels, Cancerous and other growths of the Intestines, Diseases of the Cæcum and Apendix Vermiformis, Tubercle of the Peritoneum, Carcinoma of the Peritoneum, Affections of the Abdominal Lymphatic Glands, and Ascites, by John Syer Bristowe, M.D., F.R.C.P.; Colic, Colitis, Dysentery, Fatty Liver, Cancer of the Liver, Hydatid Disease of the Liver, and Waxy Disease of the Liver, by J. Warburton Begbie, M.D., F.R.C.P.E.; Diarrhœa, Jaundice, Biliary Calculi, Chronic Atrophy of the Liver, and Acute or Yellow Atrophy of the Liver, by Edward Goodeve, M.B.; Diseases of the Rectum and Anus, by Thomas Blizard Curling, F.R.S.; Intestinal Worms, by W. H. Ransom, M.D.; Hepatalgia, by Francis Edward Anstie, M.D., F.R.C.P.; Congestion of the Liver, Suppurative Inflammation, and Gangrenous Inflammation of the Liver, by W. C. Maclean, M.D.; Splenic Leucocythæmia, Hodgkin's Disease, by William R. Gowers, M.D.; Addison's Disease, by Samuel Wilks, M.D., F.R.S.; Exophthalmic Goitre, by Hermann Beigel, M.D.; Diabetes Mellitus, and Diabetes Insipidus, by T. Lauder Brunton, M.D., F.R.S.; Nephralgia, by W. R. Basham, M.D., F.R.C.P.; Hæmaturia, Endemic Hæmaturia, Hæmatinuria and Paroxysmal Hæmatinuria, Albuminuria, Congestion of the Kidneys, Bright's Disease, Anomalies of Form, Position, and Number of the Kidneys, by William Roberts, M.D., F.R.S.; Diseases of the Renal Blood-vessels, Calculous Disease of the Kidney, Hydronephrosis, Renal Abscess, Tumors and new growths of the Kidney, and Diseases of the Urethra, by Frederick T. Roberts, M.D., F.R.C.P.; Nephritis and Pyelitis consecutive to Affections of the Lower Urinary Tract, by Marcus Beck, M.S.; Affections of the Bladder, by Sir Henry Thompson, M.B., F.R.C.S.; Changes in the Shape and Position of the Uterus, and Disorders of Uterine Functions, by Grailly Hewitt, M.D., F.R.C.P.; Inflammation of the Uterus, Metritis, Pelvic Hæmatocele, and Pelvic Cellulitis, Pelvic Peritonitis, by William Overend Priestly, M.D., F.R.C.P.; Growths in the Uterus, Inflammation of the Ovary, and Ovarian Tumors, by John Williams, M.D.; Cutaneous Diseases, by J. Balmanno Squire, M.B.; to which are added Cholera Morbus, Cholera Infantum, Trichina Spiralis, Bronchocele, Progressive Pernicious Anæmia, and Spermatorrhœa, by Henry Hartshorne, A.M., M.D.

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We have given the foregoing detail of the contents of these volumes that our readers may judge more correctly of the magnitude of the work. The careful reader will note some duplications and incongruities. For instance dysentery is classed as a general disease and treated in the first volume by Dr. Meacham, and also as a local disease and treated in the third volume by Dr. J. Warburton Begbie. The same is true of roseola. Rather curiously, sudamina and miliaria are assigned a place in the first volume with the *general diseases*, and gravely treated in a short article by Dr. Sidney Ringer. Yet this writer expressly states that these eruptions "are characteristic of no particular disease, but are produced by sweating; and hence they often occur on the decline of fevers, and especially on those critical days when the sweating is most profuse." It would appear to us quite as appropriate to call the *rose* spots of typhoid fever, or any other mere *symptom*, a general disease, as to apply that title to sudamina and miliaria. These, however, are minor matters. The greater defects in the work arise from the fact, that a large number of the articles treating of the most important topics were written some fifteen years since, and at a time when the so-called stimulating or alcoholic treatment of general fevers, and almost all acute diseases, was at its height in Great Britain; and before the antipyretic doctrines of the present day had attracted very general attention. The attempt to supply these defects by the short notes of the American editor, is only partially successful, and often seems to make the contrasts and discrepancies more prominent. For instance, the article on typhoid fever was written by Dr. John Harley, of London, in 1865, and besides being fifteen years behind the present state of medical progress, it contains a number of paragraphs much better calculated to lead the reader into serious errors, both of pathology and of therapeutics, than to aid him to correct views in regard to this important disease. Here is the first paragraph under the head of Pathology. "If we carefully regard the incipient symptoms of enteric fever, we shall find that they have reference to derangement of the hepatic function. Often, long before the graver symptoms are developed, the patient loses appetite, the bowels are constipated, and the stools pale; the tongue is foul, and the digestion much

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impaired. All these symptoms point to a defective secretion of bile, and to a state of approaching inanition. Such a torpid condition of the liver may be produced in two ways in the development of enteric fever. It may result from severe or prolonged vascular congestion, in which the other internal organs participate, or it may be the effect of some morbific agent, carried by the portal vein from the intestinal surface into the liver, and causing, by a direct action upon its secreting corpuscles, derangement, or more or less complete paralysis, of its functions." (See Vol. I, p. 218). Again, he says: "Primary vascular congestion of the liver, no matter how produced, leads to a vitiation of the secretions of the alimentary canal; nervous exhaustion results from arrested nutrition. Under these conditions the liver begins to degenerate, and the intestinal mucous membrane tends to ulcerate, the blood is imperfectly depurated, and general febrile disturbance ensues." (P. 219). Still pursuing the same subject, he adds: "Not the least important function of the liver, is, to prevent by its antiseptic properties the decomposition of the chyme; take away this preservative influence altogether from the system, and fermentation with the escape of gas and tymanitic distention follow. The impure chyme irritates the debilitated and congested mucous membrane, and what wonder then if inflammation, ending in ulceration of Peyer's patches and the follicular glands, should result." Finally, he says: "From the foregoing observations it will be seen that we are induced to conclude that the disease arises from vitiation of only a portion of the venous blood, and that the constitutional symptoms are in many cases, due to consequent derangement of the hepatic function."

By these paragraphs, and still more by the whole text from which they are taken, it is seen that Dr. Harley comes as near placing the essential pathology of typhoid fever in the *liver* as Broussais did in the gastro-enteric mucous membrane, or Clutterbuck in the brain. How can he reconcile his supposed primary hepetic derangement and degeneration, and consequent decomposition of chyme as primary pathological changes, causative of both the general fever and the local intestinal lesions, with the well known fact that post mortem examinations show less morbid changes in

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the duodenum and upper part of the jegunum, where the supposed chyme decomposition would take place, than in any other part of the alimentary canal; and with the further fact that the liver very generally shows much less change either in size or structure than either the spleen or the mesenteric glands. His idea, as expressed in the last pharagraph, that the mischief arises from a *vitiation* of only "a portion of the venous blood," seems to be based on the assumption that all the morbid material taken up from the intestinal surfaces and carried into the portal vein necessarily went directly into the liver. But inasmuch as a large part of the blood in the portal vein passes directly into the vena cava without entering any part of the liver, it is a little difficult to conceive by what peculiar mode of separation all the vitiating material is kept in just that part of the common mass of blood in the portal vessels that enters the branches ramifying in the liver without passing in equal proportion in that part going directly into the vena cava. It is hardly necessary to comment further on these crude and fanciful pathological notions of Dr. Harley. And yet they exert an important influence over his views of treatment, as may be seen by the following paragraph from page 247. In reference to treatment he says: "The indications in the early period of the disease are to relieve internal congestion, and to revive the function of the liver." And after this early stage is passed, he says: "In the further progress of the disease, our treatment will have almost exclusive reference to the abdominal lesion."

It is not necessary to pursue the examination of this article further to make good our assertion that its doctrines are crude and in some respects obsolete; and the same is true of many other articles in relation to some of the most important diseases the practitioner is called upon to treat. What has been pointed out, however, will indicate to our readers the nature of our objections to this great work. Yet we are not willing to let even the introductory chapter by Dr. Reynolds pass without a protest against one or two of its plausible vagaries. For instance on the first page, in discussing a definition of disease, he says: "Disease is a condition of the individual man; it is always something more than the changes that we yet can recognize and describe

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in any particular organ or its functions. It is the *man* who is ill; and, under all circumstances of illness, he has a *diminished life.*" Admit that "it is the *man* who is ill," what have we gained by the admission? Can we have any conception of the *man*, whether *ill* or not, except as represented by the aggregation of his physical organs and mental faculties? Or can we form any conception of *life* in our present state of existence except as represented by the organs and structures of the body in a state of activity? Is *life* an abstract entity consisting of a given amount of something distinct from the organs or physical structures, capable of increase by health and diminution by disease? To talk about the *man* being ill, and the *illness* being always a *diminished life*, in any other sense than as indicated by the conditions of the structures and functions which unite to make the *man*, is to amuse ourselves with incomprehensible figures of speech, full of sound, but signifying nothing. But starting with such ideas of disease, we are not surprised to find him closing the same chapter with the following therapeutic law: "In all treatment, therefore, what is *general* is to be dealt with upon the basis of a true appreciation of the general pathological condition, and this in spite of all theories in regard of local changes, however they may be termed, whether they come to us with names hoary with age, or scarcely intelligible, and sometimes even ludicrous from their novelty. If the general condition be one of weakness, it matters not that the brain, the heart, or the lungs may be in a state of so-called 'inflammation'; the *weakness* is the *one thing* that demands immediate treatment, and to neglect its treatment is to run the risk of sacrificing the patient to a theory of a compound state even now but imperfectly understood. This is the starting point, the essential element in therapeutics," etc. In other words we are here taught that all disease is a diminution of a life. A condition of diminished life must be one of general weakness, and this general weakness is the *one thing* demanding immediate treatment, without regard to local conditions of the brain, heart, lungs, or other structures. We can hardly conceive of a doctrine more unphilosophical than this; or one more dangerous to the patient when practically applied in the treatment of diseases. Having briefly

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indicated what we deem objectionable in the volumes, with examples sufficient to indicate their nature, we wish to do justice both to our readers and the publisher by saying that these three ponderous volumes contain a vast amount of valuable information. While they are too voluminous, and contain too much matter that is obsolete, or not in harmony with the present state of medical knowledge to be fit for use as text-books for medical students, yet as works of reference in the library of the discriminating practitioner, the medical investigator, and the medical teacher, they are of real value. D.

ARTICLE XII.—LECTURES ON THE HUMAN EYE IN ITS NORMAL AND PATHOLOGICAL CONDITIONS. By Adolph Alt, M.D., Lecturer on Ophthalmology and Otology in Trinity Medical School, Canada. With ninety-five illustrations by the author. G. P. Putnam's Sons, New York.

In his preface to this work the author says: "A book treating systematically on this subject, and especially on the histological conditions of the pathological human eye, whose execution and price would allow it to be of usefulness to everyone interested in the matter, has been to this day a want often felt.

Dr. Alt is to be congratulated upon the very efficient manner in which he has supplied this want. The superior advantages for study, in this line, which the doctor has enjoyed have been well improved. This book is confined entirely to the eye-ball, and while it contains only a little more than 200 pages, it represents an immense amount of labor. The normal anatomy is concisely and clearly presented, but this we may find in a number of the text books on diseases of the eye. The chief value of the work lies in the full and special attention given to the pathological anatomy of the different structures of the globe. The numerous wood cuts from drawings by the author add very much to the value of the book, and reflect credit both upon the author and publishers.

It is very much to be regretted that this excellent little book should be marred by so many trifling errors. Comeo-scleral is comea-scleral in a number of places; protoplasmatic is protaplasmatic, lymphatic is lympathic, peripheral is periphecal, de-

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pendent is dependant, serous is serious, etc. A number of sentences are not as clear as they might be. Page 8.: "The fibers into which *Bowman's* layer, is, split up and the anterior lamellæ of the corneal parenchyma together enter the subconjunctival tissue in such a way that these two parts cannot be separated," etc. Page 14.: "This is, however, always the case when infiltration results, goes in the purulent form of knatitis with partial destruction of the corneal tissue." Again, on page 203: "Some authors have seen transverse striation on these fibers, and therefore considered them to be of a character muscular cells sometimes found between them, are wandering (lymphatic) cells." But these errors do not seriously impair the value of the book, and can be elided when a second edition appears, for which we will not probably have long to wait.

In our opinion this little book is a valuable addition to the literature of the subject upon which it treats. W. T. M.

ARTICLE XIII.—ROCKY MOUNTAIN HEALTH RESORTS. An Analytical Study of High Altitudes in Relation to the Arrest of Chronic Pulmonary Disease. By Charles Denison, A.M., M.D.

The author of this book went to Colorado an invalid. He has given to the study of climate much time and careful thought prompted not only by scientific interests, but by strong personal motives. We have not yet perhaps the data on which to base positive conclusions, but from some knowledge of the Rocky Mountain regions from a somewhat extended observation of the effect of a residence in these regions upon chronic pulmonary disease, it seems quite certain that the conclusions of the author are in the main justified.

Dr. Denison sums up his study in a series of propositions. We print them in a condensed form. They have reference to consumption.

1. Cool, dry climates are desirable. These elements, coolness and dryness increase by elevation.

2. The Rocky Mountain region in coolness, dryness and sunshine meets the climatic indication.

3. The effect of dim nished atmospheric pressure from one

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sixth to one-fourth of that at sea level, is to promote the activity of the blood stream through the lungs.

4. A change to the Rocky Mountain climate in chronic lung troubles is favorable in proportion as it is resorted to early.

5. The stimulating effect of high altitudes upon heart and lungs is opposed to the idea of rest, usually thought necessary to repair, but is nevertheless an important agent in arresting chronic phthisis.

6. Tissue change should be stimulated, in at least the early stages of phthisis. Altitude hastens tissue change.

7. The curative influence of the Rocky Mountain climate is best shown in the early stages of chronic inflammatory and hæmorrhagic cases.

8. The contra-indications are: 1. Organic cardiac disease, especially if accompanied with abnormal activity. 2. Softening in acute cases with extensive deposits. 3. Chronic cases with extensive cavities. High temperature and advanced age should also probably be considered as contra-indications.

9. In most cases the change from low to high altitudes should be made gradually.

10. The altitude should vary in different cases according to condition, the range being from 2000 to 6500 feet. Severe or more advanced cases do not bear as well the higher altitudes.

11. In cases which improve there should be a prolonged residence—permanent if possible.

Dr. Denison has also prepared a chart for the examination of persons contemplating climatic change. It consists of a series of questions to be answered by the patient, as well as a complete summary of the medical facts to be investigated by the physician. The volume is enriched by a carefully prepared and executed map of the Eastern slope of the Rocky Mountains, giving the elevations, rain-fall, temperature, isothermal lines, humidity, force and direction of winds, roads, railroads, mineral springs, etc.

Upon the whole, we commend the book most cordially to physicians and others interested in the health resorts of what a few years ago was the "Far West," but which is now almost as near to Chicago as the Atlantic seaboard. J.

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ARTICLE XIV.—ON COCCYGODYNIA. A Lecture Delivered in the Chicago Medical College, March 20th, 1880, by Edward W. Jenks, M.D., LL.D., Prof. of Medical and Surgical Diseases of Women, and of Clinical Gynæcology in the Chicago Medical College, etc. Reprinted from the Medical Record of N. Y., Vol. XVII, No. 16; April 17th, 1880.

This is a neatly printed pamphlet of fifteen pages, in which the author presents an excellent résumé of what is known concerning the very troublesome affection named in the title, with some additions of value from his own practice. He shows that two distinct morbid conditions have been included under the names coccygodynia, coxalgia, etc. One is an inflammation either traumatic or from rheumatism in the dorso-coccygeal articulation, the other a more obscure affection either of the nerves or fibrous structures attached to the coccyx. Of the first, many cases will recover by rest and appropriate medical treatment. Of the latter, a large majority of the cases are cured by surgical interference only. The lecture will well repay a careful perusal.

TREATMENT OF GONORRHŒA BY INJECTION OF CHLORAL.—Dr. Pasqua, head physician to the military hospital of Benghazi, indicates this method of treating gonorrhœa in a letter addressed to the *Bulletin Général de Therapeutique*. He employs a solution containing a gram and a half of chloral to 120 grams of vase water. Two injections a day retained some minutes have appeared sufficient. It produces at first a slight smarting, a sensation of prickling, which is followed in two or three minutes by an agreeable sensation of coolness. After the third or fourth day of treatment, the desire to urinate and the erections become less painful and frequent, the discharge diminishes, becomes more clear and limpid and ceases completely in eight or ten days. M. Pasqua has examined his patients at various intervals without finding any of the complications or accidents which often follow badly treated cases of gonorrhœa.—*La France Médicale*, May 12, 1880.

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Selections.

A CLINICAL LECTURE UPON CUTANEOUS EPITHELIOMA. By I. EDMONDSON ATKINSON, M.D., Clinical Professor of Dermatology, University of Maryland, etc., Baltimore.

Gentlemen: The patient I now show you is a widow, sixty-seven years of age, living in Baltimore county. She has informed me that about seven years ago a small spot, of pin-head size, came upon her left cheek. It was then partly scaly, and would, at times, discharge a scanty, thin fluid. Two years or more ago, a similar lesion made its appearance upon the bridge of her nose. There has been no other subjective symptom accompanying these, than a slight itching. At present the spot upon the right cheek is 1 cm. in diameter. It is of a pale-red color, not ulcerating, perfectly soft, and scaly. No scar can be detected upon it nor in its vicinity. It is itchy, and, indeed, cannot be distinguished from a patch of scaly eczema. The spot upon the bridge of her nose has gradually and steadily extended, and is now 2.5 cm. in diameter, and is quite circular. It is distributed nearly symmetrically, and its borders approximate, but do not involve the inner canthi. The surface of this area is rather darker than the surrounding skin, and is, for the most part, covered with thin, desquamating epidermis. Little ulcers have, from time to time, our patient states, appeared upon this surface, and after healing, are seen to have converted it almost wholly into a superficial scar-tissue. There is now, at the lower border, a small, brownish scab, which covers a superficial ulcer, whose base can be felt to be slightly indurated. Along the right inner margin of the patch, are arranged several granules, or pearl-like nodules, no larger than mustard seed. There are scattered about this margin

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several other thin scabs and some epidermic accumulations. The affected area, taken as a whole, is very slightly infiltrated, and occasions no pain, but some itching.

Scattered irregularly over the upper part of the face are a few small spots, consisting of thin, gray and greasy-looking epidermic scales. These can be easily removed by the finger-nail; and the surface thereby exposed, is seen to be moist, sticky, with here and there a tiny drop of blood. Notice, in addition, that all the glands of the neighborhood are in a perfectly healthy condition.

Finally, the patient presents an appearance of general good health, gives a healthy history, and is not aware of any member of her family having had cancer.

Neither the appearance nor the history of this patient could impress one not acquainted with the disease, as at all alarming; and yet, we have here a form of cancer—flat, superficial carcinoma, or epithelioma of the skin.

Allow me, however, without further discussion of this case, to pass to the consideration of another form of the disease, and to read the following extracts from my notes:

Mrs. K., a German widow, sixty-four years old, of slender frame, medium height and dark complexion, came for treatment to the Special Dispensary, June 10th, 1878. Four years previously, she noticed a pimple upon the left side of her nose over the nasal bone. Slowly it became an open sore; and last fall the ulcer was destroyed with caustics. The result was successful, and the parts healed perfectly. There was no sign of re-appearance until April.

When I first saw her, there was an ulcer, situated at the margin of a bed of scar-tissue, 1.5 cm. in diameter, just below the left inner canthus, towards the median line. It was as large as a small shirt-button, and had clean, reddish edges. The part in which it was imbedded was movable about the circumference of the ulcer, but attached to the bone at its base. Along the borders, were a few medium-sized nodules. After removing a thin, dark-brown scab, the ulcer was seen to be funnel-shaped, of a reddish-brown color, moistened by a scanty, thin discharge. The edges were not everted, but were abrupt. The whole was considerably indurated. Pressure forced out a little bloody serum. The neigh-

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boring lymphatics were not involved. The family history seemed to indicate no cancerous antecedents.

Recognizing this ulcer as an epitheliomatous one, on June 17th, the patient being anæsthetized, I spooned it out with the dermal curette, as thoroughly as possible, and satisfied myself that the subjacent nasal bone was extensively implicated. I next introduced a crayon of silver nitrate, and carried this wherever the morbid tissues would yield before it. The point sank through the diseased portion of the nasal bone, as through a cheesy substance, making a free opening into the nasal cavity as large as a goose-quill. The crayon was made to burrow in every direction, until only solid, unyielding tissues were encountered. The pultaceous mass was then turned out, and the wound dressed with antiseptic cotton. Recovery was rapid and complete, and when seen by me, October 10th, the integument was continuous, and the destruction of osseous tissue was only made evident by a depression. There was no sign whatever of a renewal of the new growth.

The patient whom I now present to you is the subject of the following extract from my note-book:

Mrs. G., an Irish widow, slender and wiry, had always enjoyed excellent health. Eight or nine years ago, a little wart appeared upon her right cheek, near her nose. It gave no trouble, and remained almost unnoticed. Three years ago, it began to enlarge. It has never given pain, except when she assumed a stooping posture, when it would throb. I saw her first July 15, 1879, at the Special Dispensary. She then had a tumor situated upon her right cheek—its inner border almost reaching to the nose. The superior margin of this growth was 1.5 cm. below the lower lid. The tumor was nearly circular and evenly dome-shaped, measuring, in vertical diameter, 2.5 cm.; transversely, 2 cm. It projected nearly 5 mm. above the line of the surrounding skin, from which it sprang abruptly. It was smooth, red and shining as if varnished. Its epidermis was continuous, except at five or six points where minute excoriations were present. These were covered with small, thin, brown or concave scabs. Beneath the epidermis, some red, sinuous lines (dilated blood-vessels) could be seen. The whole growth was freely movable, and did not involve the subcutaneous tissues. The skin, how-

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ever, was affected in its whole thickness. At a few points of the periphery, very small scars were visible (from previous ulceration). The whole mass was slightly indurated. There was no glandular complication.

The diagnosis was here, again, cancer, but of the papillomatous variety—papillomatous epithelioma. Excision with the knife was here plainly practicable, but was positively declined by my patient, who also refused to submit to anæsthetization. Being thus obliged to forego the prospect of an immediate and speedy operation, I determined to have recourse to caustics. For reasons that I will presently explain to you, I selected the arsenical paste of Cosme as modified by Hebra. This paste is composed as follows, viz.:

℞. Acid arsenios.....(gr. x.)	0	6
Hydrarg. sulphuret. rub.....(ʒss)	2	0
Ung. aq. ros.....(ʒss)	15	0

M. S. Arsenical paste.

This paste I applied, spread upon lint, and protected by oiled silk and a compress. It was re-applied daily for four days, when the slough which had formed was dressed with a poultice. After this slough had cleared away, a granulating surface of pinkish color and of minute size was revealed. It being evident that the cancerous growth had not been completely destroyed, the paste was, in three weeks, applied as before for four days. The result of this second cauterization was most gratifying, and, as you may now observe, cicatrization is perfect. At one point, a tiny scale, not so large as a pin-head, may indicate the return of the new growth. This is very doubtful; but I have cautioned her to watch its condition narrowly.

The next case I wish to speak of presented still another—the infiltration form of carcinoma, cancer of the lip.

This patient, Patrick F., was, doubtless, known to many of you as an inmate of this hospital last summer. He was tall, slender, of feeble aspect, and 52 years old; of Irish birth. Five years ago he had a non-parasitic sycosis, which began upon his left cheek, and speedily extended to the right side of his face. He was treated for this by Dr. Michael. It is now well, but has left a smooth surface of scar-tissue in its stead.

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As, however, it is not to this feature I desire to draw your attention, I pass to another point of the case. Two years ago, he first noticed a lump in his right lower lip. This gradually increased in size, and when seen by me, July 20, 1879, it had attained the dimensions of a hickory nut, involving the entire thickness of the lip, and extending far down towards the chin, including both skin and mucous membrane. It was of gristly hardness. To the eye, it appeared as if glazed or varnished, and was superficially ulcerated. The lip was everted, and a stream of saliva dribbled down to the chin. The color of this tumor was a pale pink, and its excoriated surface was coarsely granular. A thin, serous fluid bathed it. The submaxillary glands were larger than normal, but did not give an impression of specific induration. Pain was an insignificant symptom. No family history of cancer could be obtained. This patient had upon his lip the deep-seated or infiltrating form of epithelioma.

Epithelioma—epithelial cancer of the skin—comprises three forms—the two milder ones, however, tending to run into the third, more malignant one. These are—

1. The superficial or flat variety.
2. The papillomatous variety.
3. The deep-seated or infiltrating variety.

First, let us consider a few properties held by these three forms in common.

Cutaneous epithelioma is a disease of advanced life, rarely occurring before the fortieth year, more frequently after the fiftieth year. It is said to be more commonly met with in males. Of all parts of the surface liable to it, the face is, beyond all comparison, the seat of election. Next in frequency, the genital organs are attacked by it; but it is not proposed to treat in this lecture, of the disease as occurring in the latter parts. There seems to be an especial predisposition for epithelioma to attack those parts where there has been a congenital or acquired epidermic malformation, such as occurs in warts, moles, etc., or to start from spots where are those little accumulated patches of epidermic and sebaceous products, such as one frequently sees upon the integument of the aged, and such as now point out to you upon the patient before you. Still further, the new growth tends to

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attack those individuals whose skins are, in their entirety, of defective congenital organization. This plaster cast, for example, represents a papillomatous epithelioma upon the arm of a man 60 years old, who had had a simple ichthyosis since infancy. Strange to say, hereditary transmission does not seem to play the same important role in this affection as in some others.

Epithelioma of the skin usually begins as a nodule of minute size, and of waxy appearance; or it may begin, as already mentioned, in flat, greasy-looking, scaly spots of minute size. (Both of these conditions may be found in the patient I first presented to you; the scaly spots being distributed over various portions of the face; the little wax-like points imbedded in and slightly projecting from the margin of the patches upon the nose.) Or, the disease may begin in a wart or a mole, which may have been of life-long duration or of recent appearance. At all events, the beginning is usually so insignificant, that for a long time it may fail to attract attention. This is more especially the case in the flat or superficial form of the disease. At other times, as in the case of F., where the cancer is of the deep-seated infiltrated variety, the new growth reveals itself first as a small tumor imbedded in the skin.

The mildest variety of cancer of the skin—the flat or superficial form—beginning as a tiny nodule, an abrasion, a scale, a small scab, may, and often does, exist for years without attracting more than passing notice. After several years, it may have developed a superficial ulcer no larger than a half-dime, with reddish, glazed, scantily-secreting base, often covered with a dark, thin crust, and slightly indurated; or, it may even be so small that ulceration will be scarcely recognizable, and yet the morbid action may have produced considerable destruction of tissue, whose place will have been usurped by a scar; for, while the ulcer may continue a small one, and always superficial, it will, in its course, have invaded a large tract—healing at one point, while invading new tissue at another.

I lately had an opportunity of seeing this form of epithelioma upon the cheek of an elderly gentleman, who had had it for a great many years. During all this time, the only active lesion had been ulceration so very superficial and limited, that it was invari-

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ably covered by a little black crust, and had only attracted attention by its pertinacity. It appeared originally near the center of the cheek; but when seen by me, it was near the tragus of the ear. But it had not made this change of location without leaving its trail behind it. The tissue between the little scab and the point of origin was no longer normal tissue. It was a superficial scar, and included a space nearly as large as a silver dollar. A noteworthy circumstance was, that the little ulcer, with its scab, had not travelled continuously, but had occasionally healed entirely at one point, to re-appear at another (and this behavior is often observed in the course of epithelioma). The new growth had been slowly infiltrating the normal tissue and causing its destruction. As repair and cicatrization took place in its wake, the disease was always progressive; and yet, in all these years, the ulcer did not increase in size and activity. It is now no more formidable in appearance than at the beginning, and is still going on as it began.

When, however, as is usually the case, in the course of time, a decided ulcer is formed, it presents peculiar characters. Its surface has a dry, shining appearance as if varnished, and its color is grayish-red or brownish-red. It is also coarsely granular. The scanty sero-sanguineous discharge tends to dry into thin crusts, and there is presented a general aspect of inactivity. The form of the ulcer is irregularly circular; its edges quite clearly defined; and to the touch there is a decided feeling of induration. Scar-tissue is frequently visible in the vicinity, attesting an attempt at repair. During this period, the limits of the corium may or may not have been exceeded; frequently, the new growth will have been limited to the superficial portions of the corium; at other times, deeper tissues have been involved. In the latter event, the disease may long retain its indolent course, or it may pass rapidly into the deep-seated, infiltrating variety, and the gravity of the prognosis will be proportionately increased.

The flat, superficial form may last for years, even as many as ten, fifteen or twenty years, and remain all the time a strictly local process, never giving rise to infection of the neighboring lymphatics. Indeed, it is impossible for the new growth to become replaced by scar-tissue entirely, and the cancer to be thus per-

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manently cured. This desirable result, unfortunately, is not frequently realized, and sooner or later, the superficial cancer becomes deep, and its ravages more rapid and alarming.

When this ulcerative process has become pronounced, but remains indolent, this variety of epithelioma, when upon the face, was formerly, and is still by many, especially in England, known as "rodent ulcer;" and its cancerous nature has often been denied. This view is, however, based upon the slight degree of malignity attached to this form of ulcer, and to its supposed histological peculiarities, insisted upon by many English pathologists, headed by no less an authority than Sir James Paget, who deny that the new growth is of an epithelial nature. This view, however, is now quite untenable, and it is certain that "rodent ulcer" is histologically allied to and identical with carcinoma. The clinical relations, indeed, of this form of ulcer are often so intimate with the other forms of the disease that it becomes impossible to separate them. The condition known as "rodent ulcer," therefore, is a pronounced variety of milder epithelioma, and partakes of the very moderately malignant nature of this. And since there is no longer any doubt as to its identity, it will be proper for me at this time to put you upon your guard against falling into the error of imagining differences that do not exist. Remember, then, that the so-called "rodent ulcer" is simply an ulcer of the face, of chronic course and cancerous nature.

When the ulcer assumes the characters of infiltrating epithelioma, it reveals the action by involving, not only the skin and subcutaneous cellular tissue, but also the underlying muscles and bones. To these it becomes immovably attached. This tendency, indeed, may be present from the very first. Under such circumstances, the beginning may be, as in the flat form, from a wart or fissure, etc., or it may be from a small nodule imbedded in the skin. This slowly increases in size; new nodules arise about the margins, and there is formed a smooth, indurated, slightly elevated mass. In the meantime, the new growth is reaching down its prolongations into the corium, crowding out, in great degree, the blood-vessels, the sources of its own nutrition. Just as any tissue or individual, when deprived of its ailment, dies, so do these epidermic prolongations die when their vascular food-supplying

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tissues disappear before them. Thus, the dead epidermic masses, separate from those not yet sufficiently removed from the food-supply, and fall away from them. In this manner is formed the carcinomatous ulcer of whatever variety.

The infiltrating epitheliomatous ulcer now makes more rapid progress. It becomes deep, circular or oval, with hard unyielding edges, precipitous but not undermined. Its surface is granular or smooth, of a reddish or brownish varnished appearance, and discharges a small amount of ichor, which dries into a thin scab. The infiltration still stretches downwards, involving bones, muscles, whatever structures it meets, replaces them, and forms a solid unyielding mass. The boundaries of the ulcer continually enlarge, and frequently there appear nodules of waxy appearance, masses of epidermis cells—the advance guard of the main army, preparing to extend the widening surface of ulceration. The neighboring lymphatics no longer possess an immunity as in flat carcinoma; but infected with the now malignant process, become enlarged, hardened, and finally break down into ulceration, and become continuous with the original lesion, or enter upon a separate course of destruction.

Infiltrating epithelioma may destroy life in a few months When its course is less rapid, it may exist for some time, with its margin studded with nodules, or presenting a continuous border, with the waxy appearance of crumbly epidermic masses. This condition may last for a long time, but sooner or later, if not arrested by treatment, the progress of the disease will destroy life through exhaustion, mal-assimilation, pain, sleeplessness, and the accompanying train of disorders.

You will remember that I described the third case, that of Mrs G., as one of papillomatous epithelioma. There the tumor while not penetrating beyond the cutis, arose abruptly above the surrounding surface, not unlike a large button. Its slightly scarred surface was, except at a few small ulcerating points, covered with a smooth, thin epidermis. Papillomatous epithelioma may also assume the appearance presented by this very imperfect plaster cast. The patient was a woman forty-six years old, a laundress. The new growth had begun two years previously as a small pimple upon the dorsal surface of the metacarpo-phalangeal articula-

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tion of the left thumb. It gradually spread until it attained the dimensions seen upon the cast (five cm. transversely by three cm. antero-posteriorly). When I first saw it the appearance was that of a huge warty growth, as seen about the periphery; but as the margin had extended, a destructive ulceration of a very insignificant aspect had been going on in the center, visible only at scattered and minute points. The central cicatrix, the result of the healing of the ulceration, formed a pale, depressed surface of the size of a quarter of a dollar, surrounded by the centrifugal papillomatous elevations. This form of epithelioma may also appear in the course of the other two varieties, and may either be superficial or deep, or the three forms may co-exist. In any case it gradually and surely assumes the characters of the infiltrating form.

The *diagnosis* of epithelioma of the skin, usually need occasion but little difficulty. Syphilis, both in its initial and later manifestations, lupus, and finally simple warty growths, may be confounded with it. An infecting chancre may present characters not to be distinguished from cancer. The history, the rapidity of development, the acute course, and the early implication of the glands in the vicinity, usually enable us to distinguish a chancre; while the subsequent course of a cancerous ulcer, cannot allow us to remain long in doubt. A tertiary manifestation of syphilis may likewise cause hesitation; but here, again, there is the history, the usual concomitant conditions, the general appearance and course of the sore, whose evolution is rapid, inflammatory, actively suppurative, and readily amenable to appropriate internal medication. Lupus may be mistaken for epithelioma. But although lupus may be encountered in elderly persons, in them it will be found to have been present since youth, for lupus is essentially a malady of early life, though it may last indefinitely; while cancer of the skin, although occasionally seen in young people, is almost invariably a malady of advanced life, and rarely occurs before the fortieth year. The ulcer of lupus is superficial, without induration, and is usually accompanied by characteristic lupus tubercles. It, moreover, is not apt to invade osseous tissue. It is not always easy to decide between the scurfy accumulations, simple warts, etc., upon the faces and other parts of elderly

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people, and commencing cutaneous epithelioma. It must therefore, be a matter of the highest consequence to narrowly watch the course of such formations in the aged, especially where they first appear in advanced life; for who is able to recognize the transition stage, where benign merges into malignant new growth.

While it happens rarely that cutaneous epithelioma ends in spontaneous cicatrization and permanent recovery, it is by far the more usual experience to find it sooner or later assume all the features of malignancy and destroy life. We have seen how the superficial form often remains inactive for many years; on the other hand, life may be forfeited in a few months. But while skin cancer, if left alone, almost invariably pursues a fatal course, there can be no doubt that by appropriate interference it may be frequently arrested and permanently cured, especially in its earlier stages. It is true that one is often obliged to make more than one attempt to control the disease, and even then to encounter failure but too often. But by repeated destruction of the recurrent malady, one may fairly expect to finally triumph.

It follows that where the natural tendency of a disease is towards a fatal end, a large portion of the labor of medical and surgical minds should have been devoted to the task of devising relief from the dreaded scourge. There has resulted a multitudinous array of remedies—some worthless, others of more or less value. No disease has been attacked with a greater variety of remedies than cancer, both by internal and external application. I only desire to speak of preparations administered internally, as specifics against cancer, in order to condemn them. From time to time, the world has been startled by the discovery of a "new and certain cure for cancer," which, after a brief notoriety, has been consigned to the waste basket of experience.

Far otherwise is it with remedies locally applied; for at present there can be no doubt that epithelioma may be entirely and permanently cured by thorough removal of every particle of its structure from the tissues in which it is embedded. Unfortunately, this statement can only be made in a limited sense; for at best, it is usually necessary to practice more than one operation, and we can only hope to secure a permanent restitution to health in a portion of our cases. One reason for this is to be found

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frequently in the inaccessibility of the infiltrating masses. But apart from this, where this difficulty is not encountered, the healing art often fails, and the eye of the pathologist is unable to trace the path of the insidious invader.

The therapeutic agents at our disposal, are those which, by direct mechanical or chemical action, secure the removal of the infiltration. They have the same object in view, but attain it in different ways. With the scalpel, the mass may frequently be thoroughly removed. The same result may be attained with the dermal curette, which I now show you. Finally, the use of caustics will, nowhere more than in these cases, sometimes effect marvels.

Where the tumor or ulcer is situated upon an easily accessible part, where the loss of a large quantity of healthy integument with the resulting disfiguring cicatrix is of no moment, no one will question the greater value of the knife. The same instrument is, indeed, most appropriate in operations upon exposd parts, where the cancer is small, regular and well defined. But cutaneous epithelioma occurs, in the great majority of cases, upon that part of the body where deformity is most to be dreaded, and where small scars may produce the most unsightly disfigurement, namely, the face. Unfortunately, the knife cannot select the morbid from the healthy tissues, and in order to thoroughly remove every bit of the former, large portions of the latter must often be included. Thus is frequently incurred dreadful disfigurement without commensurate advantage. It is our duty, therefore, to search out agents capable of effecting the same results with the least possible destruction of sound structure.

The dermal curette or spoon, introduced into cutaneous therapeutics by Volkmann, of Halle, enables one to spoon out thoroughly all heterologous growth, while it is with the extremest difficulty and perseverance that one can tear out normal tissue. With it the crumbling elements of the cancer can be scraped away, without injuring the healty skin. It is a most valuable instrument, as I have found by experience, but I am inclined to think that its greatest usefulness is to be found in its employment as preliminary to other agents to be presently mentioned. It is, evidently, a difficult if not impossible task, to search out with the

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curette, all the elements of a cancerous infiltration tucked away in the interstices of healthy tissue; and, without doubt, one will frequently fail to effect their necessary complete removal.

Another agent of great value, is the actual cautery, employed either as the hot iron, electro-cautery, or, preferably, as the thermo-cautery of Paquelin. We have here, however, the additional disadvantage that the cautery has no choice between the tissues; and one can never know when the limits of the neoplasm have been exceeded. This objection also prevails against the use of the stronger potential caustics, such as potassa fusa, nitric acid, etc. These are, undoubtedly, unexceptionable agents for the destruction of tissue, but nothing can withstand their action. They involve all structures in a common ruin, and we are driven to employ various substances to check the destructive activity that we cannot otherwise control. Where, however, the object to be attacked is very small and circumscribed—in other words, where the epithelioma is in its earliest stages—these may be most profitably used.

It is, therefore, most fortunate that we possess other caustics whose more limited action renders them in these cases more valuable by far. As has already been remarked, with the knife and the most powerful caustics, it is often impossible to avoid far exceeding the limits of disease. This is especially the case where islets or tongues of healthy integument are enclosed by, or project into the new growth. The caustic agents I now wish to make you acquainted with, enable us, when we apply them, to destroy the morbid mass, without effecting any portion of healthy skin. By them, the cancer is dissected away with the greatest exactitude.

First of all, let me mention that mild caustic, which of late years has been almost banished from the class of escharotics—lunar caustic, silver nitrate. This agent may be appropriately fixed in a porte-caustique, or better still, in a goose quill, and its point driven into the morbid mass. It will, with gentle pressure, sink down until the healthy tissue is encountered. The point is now ploughed in all directions, wherever it will go—the epitheliomatous tissue melting away before it. When all of this has been destroyed, the point will be found to encounter unyielding re-

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sistance in every direction, and the operation is finished. If cicatrization be not complete at the end of a month, the process may be repeated. It will often be found advantageous to use silver nitrate after the dermal curette has removed all the grosser parts—a method I am about to put into practice upon the patient now before you.

It will frequently happen that a patient will not consent to submit to the necessary anæsthetization, or will refuse to submit to any operative procedure whatever. We still possess remedies that will effect our object in a slower manner. Arsenic may be used here in preference to other remedies. Mixed with an equal part of gum arabic, it may be applied, as Marsden's paste, and allowed to remain undisturbed for two hours or so. The resulting slough should be poulticed. I have, however, no experience with this procedure, and will not speak further of it.

I have had every reason to be gratified with the use of Cosme's arsenical paste as modified by Hebra, the composition of which I have already described. The method of its application, as recommended by that most distinguished dermatologist, and always observed by myself may be briefly described.

It having been decided to use this method (and in cases of moderate extent and intensity, it is most suitable), the surface of the epithelioma should be carefully cleansed. The paste, spread upon a piece of sheet lint to the thickness of a knife-blade, and corresponding to the surface of the new growth, should then be applied. A piece of oiled silk should be placed upon this, and over all a compress, held in position by adhesive strips. By the following day the patient will have begun to experience throbbing and some darting pain in the part, and upon removing the applications, the surface will be found to be swollen and reddened for some distance beyond the margins of the disease. After careful washing, the paste should be applied as before. Before the next dressing, which should be upon the following day, pain will have become very severe. By the end of the third day, or perhaps not until the fourth day, the parts will have become greatly swollen and reddened, and the surface of the epithelioma will be of a dark brown, charred appearance. The pain, which for the latter twenty-four or thirty-six hours will have been very severe, should

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be controlled by opiates. The redness and swelling need occasion no apprehension, since in a few hours after the removal of the caustic, they will disappear. A poultice should be applied until the slough begins to separate, which will be in a few days. At the expiration of a few weeks, this procedure may be repeated if any tendency to a recurrence of the disease be observed.

I have employed this treatment frequently, and have every reason to be satisfied with it. Its disadvantages are the protracted pain and the length of time required. The first we can control with anodynes; the second will often be preferred by the patient to the use of anæsthetics and the more speedy operation. The result is, in suitable cases, always equal, sometimes superior to that attained by the scalpel. The risk of arsenical poisoning is, here, practically *nil.*

Pyrogallic acid, in the form of a ten per cent. ointment, with vaseline or lard, has lately been recommended by Kaposi and others in the treatment of epithelioma, as a caustic agent; but, although I have used it, I am unable to give a decided opinion of its merits.

In conclusion, let me remind you that there are limits to our usefulness in this disease. Where there exists very great and wide-spread cancerous infiltration, or where the glands in the vicinity have become infected, we can rarely stay the progressive and destructive process. The enemy is a strenuous one, at best, and often defies our efforts. With the knife, the dermal curette, the actual and potential caustics, much may be accomplished in prolonging life, and in permanently overcoming the disease. But let it not be forgotten that the most good can be done when the disease is attacked early, vehemently, persistently.

A time will, nevertheless, often arrive, nay, may have already arrived when you are first consulted, when you may no longer hope to check the malignant advance. While powerless to cure the disease, or even to prolong life, in such cases, you may at least lend a supporting hand, and guide the failing footsteps along easy pathways, down into the dark valley.—*Virginia Medical Monthly.*

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REPORT OF THE COMMITTEE. Appointed by the American Medical College Association to Consider and Recommend a Plan of Registration of Medical Colleges in this Country. Read May 31, 1880.

At the annual meeting of this Association, held in Buffalo, N. Y., June, 1878, a communication was received from a foreign source asking for a list of American medical colleges in good standing, the degrees from which should be recognized by the medical institutions of other countries. Questions of a similar character had been asked many times before, both at home and abroad.

Owing to the number and varied character of the medical schools in this country, there was some difficulty or embarrassment in returning a proper answer; and after some discussion a committee of three was appointed to consider and recommend a *plan* for the registration of American medical colleges.

A report of considerable length was prepared and submitted to the regular meeting of the Association in Atlanta, Georgia, May, 1879. Some of the more important recommendations appended to that report were adopted, but the report, aside from such recommendations, was re-committed or referred back to the same committee with instructions to revise and condense the same and report it to the next annual meeting. In accordance with these instructions the report has been carefully revised, or, more properly, re-written, and is now respectfully presented by the undersigned as follows:

In devising a plan for the registration of medical colleges, which shall designate those whose diplomas should be recognized or respected at home and abroad, the question immediately arises, What shall be the standard by which such institutions shall be judged? In considering what constitutes a proper standard for a college, we must determine: First, What constitutes a proper or adequate medical education? Second, What is the minimum length of time required for a fair acquisition of such an education? Third, What part of such time should be spent in direct atten-

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dance on a medical college? and Fourth, What are the appliances, means of illustration, and facilities for imparting practical knowledge, that are necessary to constitute a college capable of performing all the functions required of such an institution?

The first of these questions may be answered by saying that an adequate medical education is such as gives to the student a fair practical knowledge of all branches of medical science, and a mental discipline sufficient for the proper use of such knowledge in the practice of the medical art. We use the words "practical knowledge" as implying something more than mere verbal knowledge. For instance, a student might study a text-book on human anatomy until he could describe every bone in the skeleton, state the origin and insertion of every muscle, and give the distribution of the blood-vessels and nerves, and thereby sustain a fair verbal examination in that department. Yet, if he had never either dissected a subject himself, or witnessed the actual demonstration of each part by a competent teacher, he would be entirely devoid of that *practical* knowledge necessary to guide him in the operations of surgery. The same is true of most of the branches of medical science. Therefore, a practical knowledge of these various branches necessitates demonstrative teaching and personal manipulation, which can be provided in an adequate degree in medical colleges only. The amount of medical knowledge requiring for its proper acquisition this kind of teaching, makes it necessary that at least one-half of the whole time allotted as the period of medical pupilage should be spent in the medical college.

As there are none at the present time who seriously claim that less than *three* full years should be devoted to a diligent study of medicine, before graduation or commencement of practice, we may answer the second and third questions by stating that the minimum length of time required for gaining an adequate knowledge of medicine should be not less than three years; and that at least one-half of each of these years should be spent in a proper medical college. And this makes it necessary that the medical colleges, to be capable of performing their functions properly, should extend their annual term of active and obligatory instruction to six months of each year. It is obvious, also, that in answering the fourth question, we must insist that the very objects

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for which medical colleges are needed make it necessary that each one should not only provide a full curriculum of studies, a full corps of teachers, and an annual term of six month's instruction, but also a sufficient supply of anatomical material for demonstrations and practical dissections; a chemical apparatus and laboratory for practical or analytical chemical work; a histological and physiological laboratory for practical and microscopic work; a museum containing a collection of specimens of normal and pathological anatomy sufficient for illustrating the departments of pathology, practical medicine and surgery; and access for the students to a hospital containing a daily average of not less than thirty patients actually in the wards for treatment and accessible for clinical instruction. A college which is so organized, or so located, that it does not or cannot provide for the daily use of its students all the resources here named, both for didactic and practical instruction, is not capable of performing all the functions that should be performed by every such institution that receives the patronage of the profession and the public. So long as the medical college diploma is recognized as a sufficient license to practice, every college asking for recognition should be required, in addition to possessing the foregoing means for adequate instruction in all departments, to exact proper evidence from every student that he possesses at least a good English education before allowing him to become a matriculate of the college; and after matriculation he should be required to attend *three* regular annual terms of medical college instruction of not less than six months each, and the last of which should be in the institution granting him a diploma.

Such are the views of your committee in regard to the *standard*, to which all medical colleges should be required to attain, before their diplomas should be regarded worthy of universal recognition.

And if this College Association should adopt and enforce two amendments to its articles of confederation proposed at the last annual meeting, and now lying on the table awaiting final action at this meeting, it would speedily bring a large majority of the colleges located within reach of hospitals accessible for adequate clinical instruction directly up to the standard proposed. One of these amendments provides for the enforcement of a proper stan-

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dard of preliminary education before admitting the student into the college, and the other for demanding attendance on *three* regular annual courses of medical college instruction before graduation. It is greatly to be desired that both these amendments shall be adopted unanimously by this Association at its present session. Until such action is taken, however, your committee have no alternative but to adopt the standard presented by the present articles of confederation of this Association as a basis or guide for the registration of American medical colleges. By a careful examination of the annual announcements of the colleges of legitimate medicine in the United States for 1879-80, we find about three-fourths of the whole number complying fully with all the requirements for membership in this Association. We find several of the remaining ones complying with all the regulations in regard to time, means, and amount of instruction furnished and qualifications required of the student, but failing in some particulars in relation to the exaction of *fees* for instruction. And a few come short more or less, either in the amount of instruction furnished, or in the time of attendance required, or both. Some of these serious shortcomings are in institutions where we should least suspect their existence. For instance, in the Medical School of Harvard, at Boston, there is certainly nothing in their annual catalogues to hinder a student from receiving the degree of M. D. from that institution by an attendance on simply one college year, which means merely nine months. The language of their catalogue for 1879–80, touching this point is, under the head of *Division of Studies*, as follows: "Students may be admitted to advanced standing in the regular course; but all who apply for admission into the second or third class must pass an examination at the beginning of the year in the branches already pursued by the class to which they seek admission, and furnish a satisfactory certificate of *time* spent in medical studies." Again, under the head of *Requirements for a Degree*, we were told that "Every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three full years; have spent at least one continuous year at this school; have presented a satisfactory thesis; and have passed the required examinations."

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In turning to the examinations required in each year, we find those of the first year to be Anatomy, Physiology, and General Chemistry. Those for the second year, Medical Chemistry, Materia Medica, and Pathological Anatomy. Now, it strikes us that he must be rather a dull young man who cannot take the necessary books, get some regular practitioner to lend the use of his name as a preceptor, and in two years make himself sufficiently familiar with the language of his text-books, that he can pass a fair examination, either oral or written, in Anatomy, Physiology, and General Chemistry, in connection with at least two out of the following three: Medical Chemistry, Materia Medica, and Pathological Anatomy. And if he can do this he can step directly into the third or graduating class, and complete his course by attending *one* college year, without ever having set foot inside of any other medical school. We are sorry to perceive that in regard to permitting students to take advanced standing in such a way as make the degree accessible by attendance on only one collegiate year of medical instruction, the example of Harvard has been followed by the Medical Department of Yale, and possibly some others. If we have not misinterpreted the catalogues, the very school which has made more pretentious appeals for the sympathy and support of the whole profession, on account of the great advancements she is making in elevating the standard of medical education in this country, is to-day offering her diploma for a less amount of medical college attendance and instruction than any other respectable school in this country.

Indeed, in reviewing the annual catalogues and announcements of the medical colleges generally, nothing has struck us so forcibly as the vast amount of medical instruction provided by these institutions, and to all of which the students are most cordially invited, to some part of it without money and without price; compared with the very modest amount they are actually required to take.

The almost stereotyped flourish is something like the following: "The preliminary course of lectures in this institution will commence on the 15th of September and continue until the opening of the regular college term. Three lectures per day will be given on very important topics, by members of the college faculty, besides the usual clinics in the hospitals and dispensaries. This

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course is free to all students. The regular winter term commences on the first Monday in October, and continues until the last Tuesday in February, when the public commencement exercises will be held and degrees conferred upon the members of the graduating class. The regular spring and summer course of instruction will commence on the first Monday in March, and continue three months. This is a very important course for the student to attend, as many topics of great importance will be taught for the consideration of which there was not sufficient time in the regular winter term. "This course is often free to all regular matriculates of the college, at other times a fee of $20, $30 or $50 is charged, the same to be credited on the fees of the next winter term." It is thus seen that instruction in this institution continues through nine months of the year. But attendance on the regular winter term *only* is *obligatory* upon the student, that on the spring course being entirely optional and not counting as a course in the requirements for graduation." This is a very moderate representation, of the general average of pretention. Nine months of instruction, all of which is alleged to be very important, and yet only five months, or just a trifle more than one-half of the whole, is the student actually required to pay any attention to. Again, look at the self-stultification presented in the claim that all the instruction provided is important and much of it on topics that could not be included in the regular winter term for want of time. If this claim is true, common sense would dictate either the extension of the winter term or the making of attendance on the spring term obligatory.

Still another phase of these shams consists in cutting up the general departments of medicine, surgery and obstetrics, by carving out of them something less than a dozen *specialties* with a lecturer or full professor in each one. This swells the list of members of the faculty and instructors to formidable proportions, and helps to back up the general claim of great advancement in the facilities for instruction. But when we turn to the time allotted to each of these additional teachers in which to give their highly important amount of instruction, we find the length of the term *obligatory* upon the student substantially the same as

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before, and the number of hours daily devoted to instruction also the same.

Nothing is more plain, therefore, than the fact that all this array of special additional teaching either takes the place of a similar amount of teaching under the general heads, or is crowded into the terms, attendance on which is entirely optional, namely, the preliminary course and the spring and summer terms—the preface and the supplement; or, to express the actual facts more exactly, these additional special branches come in to occupy a part of the time of the regular obligatory college term, and by shortening just so much the time allotted in said term to the general branches, a corresponding amount of instruction in these goes over to help make up the purely voluntary spring and summer course, when, as a general rule, three-fourths of the students have returned to their homes or their preceptor's offices. To cap the climax in this complicated effort to show a great advance, and yet, so far as real exactions upon the students are concerned, stand quite still, many of the colleges do not even require the students to be examined in any but the seven main branches of medicine, viz.: anatomy, physology, chemistry, materia medica, practical medicine, surgery and obstetrics. It does not require a very rigid annalysis of the facts here alluded to, or many years of practical experience in connection with medical colleges, to see very clearly that all this array of optional medical instruction has served to diminish the completeness and harmony, without increasing the amount of the real medical knowledge communicated to the great body of young men attending the colleges. For no fact is better known to the members of this Association than that three-fourths of the whole number of young men who study medicine actually *attend only* just so much medical college instruction as is made obligatory upon them for the attainment of a diploma. Consequently, the college that has during its obligatory winter term of five months, or twenty weeks, 150 students, will find from 25 to 40 remaining to enter upon the voluntary spring term commencing early in March. By the end of April, half of these have disappeared, one by one; and by the end of the term it will be doing well if a baker's dozen be present at the closing lecture. If the college be in one of the great commercial

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cities and has a class of 400 or 500 students attending its obligatory term, 100 to 150 may enter their names for attendance on the voluntary spring term, but as the term progresses, the same dwindling takes place as in the other case. With some the pocket money gets low; with others, it is becoming too warm; still others find they are needed at home to aid their preceptors or somebody else; and the faculty of instructors have cause for special congratulation if they have from 50 to 75 actually in the lecture rooms at the close of the term. Now how much better it would be for all parties concerned if the regular obligatory term was extended to six months, whereby one month more of systematic instruction in all departments were given to the whole 400 or 500 students, instead of two months additional voluntary instruction to a number ranging from 50 to 150. The effects here seen in one college apply equally to all the colleges and to the whole mass of medical students. The present state of things has grown out of the efforts of the colleges to yield to the constantly increasing demands of the profession and of the people for a higher standard of attainment on the part of medical men. Knowing that the controlling motive of the student is to obtain the college diploma with as little expenditure of time and money as possible, and influenced, whether consciously or not, by strong feelings of mutual jealousy and active rivalry, every device has been resorted to for increasing the show of instruction and advancement without increasing materially the obligatory demands upon the time and attainments of the student before he gets his degree.

Hence it is that we are in the midst of an era of an enormous show of medical instruction, as represented in the college announcements, a trifle more than half of which the students are obliged to attend, while the other half goes mainly to empty benches. The latest addition to this side-show business is the notice sent out by the faculty of Harvard, for which she is now receiving a fresh supply of gratuitous advertising in the medical journals, stating that hereafter she will add a fourth year of medical instruction to her already extended system. True the notice states that it will be mainly a continuation of the studies of the third year, and that attendance upon it will be entirely optional with the student. But if the latter does graciously

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condescend to attend this fourth year before he graduates, he is permitted to have added to his title of Doctor of Medicine, those remarkable words, "*cum laude.*" We had always supposed that any student who desired had the privilege of adding a fourth, fifth or even sixth year to his medical studies in any medical college in the country. At any rate we have known several rather dull young men who were obliged to attend a fourth year, and one even the fifth year before obtaining a degree. But this era of make-shifts and pretentions, of more show than substance, of superabundant provision for instruction without requiring the student to attend more than half of it, must soon come to an end. It is in the nature of things only a transition period. This College Association must perpetuate its existence, and move steadily on to the perfection of its work by adopting the pending amendments in relation to preliminary education and the exaction of attendance upon three annual courses of college instruction before graduation; and in all other important particulars combining and harmonizing the colleges, and perfecting the details of a fair and honorable system of medical education; or, failing in this, the profession and the people will unite on such legislation as will establish independent boards of examiners in every State, and take the matter of licensing candidates to practice medicine entirely out of the hands of the colleges, thereby leaving them to to compete with each other solely as institutions for imparting instruction.

Already the drift of popular demand is plainly in the latter direction. In making this report, we have omitted a detailed list of colleges that comply with the requirments of this Associations, as well as of those that do not comply, simply because that special duty was, at the last meeting, assigned to a regular standing committee, and we thought a duplication of the same work unnecessary. Respectfully submitted,

N. S. DAVIS,
S. D. GROSS.

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ON THE "SUMMER COMPLAINT" OF INFANTS. A Clinical Lecture. By J. LEWIS SMITH, M.D., Clinical Professor of Diseases of Children in the Bellevue Hospital Medical College, New York.

GENTLEMEN: The hot weather is now approaching, during which the most prevalent and fatal disease of the cities is the so-called "summer complaint" of infants. It is espcially fatal in the large cities of the Atlantic coast. It is an intestinal catarrh, which begins to appear in the middle and latter part of May, and becomes more and more frequent, reaching its maximum prevalence and severity in mid-summer, after which new cases are less and less frequent till the last of October, when the epidemic gradually disappears, and no cases remain except such as have lingered from the hot months.

The "summer complaint" is, anatomically, a catarrh of the lower part of the small intestine, and of the entire large intestine: the inflammatory lesions being, in fatal cases, most marked in the descending portion of the colon, and especially in the sigmoid flexure, where the excrementitious matter is most apt to be delayed and to accumulate. The greater thickening and redness of the mucous membrane in this locality, which I have often observed at autopsies, has seemed to me chiefly due to the irritating nature of the fecal matter, just as the erythematous redness of the skin around the anus present in certain cases, arises from this cause. The ulcerations which are apt to occur in grave protracted cases, and which are circular and seem to correspond in site with the solitary glands, are also most numerous in the descending colon, and particularly in the sigmoid flexure. Most cases of this disease occur prior to the age of two and a half years; so that the "summer complaint" is almost peculiar to infancy. But the first years of childhood are not entirely exempt.

There are two important factors in the causation of the "summer complaint:" 1st. The atmospheric heat, which acts as a causative agent, not so much by its direct effect on the system—

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though its direct enervating influence may act to a certain extent, as a cause, by impairing the general tone of the system, and the digestive function in particular—as by producing foul gaseous exhalations from the decaying organic matter, which always exists in considerable quantity in and around the crowded domiciles of the poor in our cities. Abundant observations show that the "summer complaint" is most frequent and fatal in those localities, where the streets, court-yards and apartments are most filthy. In these places the foul odors are often very perceptible to the visitor. The operation of this cause seems to me to be similar to the foul air of the dissecting-room, in former times, when the medical student remaining long at dissection was apt to be incommoded by attacks of diarrhœa.

2d. The other cause is not less important, and in a large proportion of cases its action is apparent. It is the use of unsuitable food. For food which the feeble digestion of the infant cannot assimilate, soon begins to undergo fermentive changes, and acts as an irritant and purgative. It is the common opinion among families that the "summer complaint" is most frequent and dangerous in the second summer, but many observations establish the fact, that the first summer possesses no immunity, but on the other hand, the younger the infant, the greater the liability to be attacked if the diet is improper, and the reasons why so many infants remain well in the first summer is that they are nourished at the breast, and this second factor or cause is not operative in them.

It is not my intention at this time to speak at length of measures designed to prevent the "summer complaint," or of the hygienic measures required in its treatment' except to state certain facts, which are very important, and the knowledge of which will materially assist the physician who has had little experience with the disease. First, every infant under the age of twelve months in the city should, if possible, have the breast milk during the hot season. If the mother be not competent to furnish it, a wet-nurse should be employed. If it cannot have the breast milk, the family should be urged to go to the country, especially during July and August. Never consent to the weaning of an infant in or just before the hot weather. Statistics which I have

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preserved, bearing on this point, show a most disastrous consequence. The new diet will not agree, and if weaning be necessary, insist on removal to the country.

But there is a large number of infants in the families of the city poor that are weaned at this improper time, no physician having been consulted, and a large number also who are wet-nursed, but the breast-milk is insufficient, and it is necessary to employ more or less artificial food. Now it is very important to decide what kind of food should be given. The shops contain several so-called "substitutes" for breast milk, but the milk of the cow or goat more closely resembles human milk, than do any of these "substitutes," and when sufficiently fresh, and of good quality, it is to be preferred, I think, for most infants. For an infant under the age of two months it should be diluted with one-third its quantity of water; for those between the ages of two and five months, one-fourth or one-fifth its quantity of water should be added; while for those over the age of five months, no dilution is ordinarily required. The infant after the age of one month should not take the breast more frequently than every second hour, and for artificial feeding it is well to have a little longer interval.

The casein of cow's or goat's milk is apt to coagulate in the stomach of the young infant in large masses, which are with difficulty digested. To aid, in a measure, in preventing this a thin farinaceous food, as barley-water, or rice-water well boiled, may be mixed with the milk. The farinaceous particles intimately mixed with the casein tend mechanically to prevent the coagulation in large masses. In an infant now under observation in the New York Infant Asylum, cow's milk given in the ordinary way caused vomiting, but, by preparing from it a wine whey, with a small proportion of sherry wine by which a considerable part of the casein is removed, it is no longer troubled with indigestion and is doing well. The employment of fresh wine whey, thus prepared, will often be found useful, at least as a temporary expedient, when the infant vomits milk prepared in the ordinary manner, and containing the full amount of casein. It has been proposed by Drs. Rudisch and Jacobi of this city to coagulate the casein, or at least a part of it, by hydrochloric acid

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before the milk is used. A half teaspoonful of the dilute officinal acid is added to one pint of cold water, and this is thoroughly mixed with two pints of cold milk, and the mixture is then boiled ten or fifteen minutes. This has been employed for only one infant under my observation, in one of the institutions. It had vomited the cow's milk previously given, and it vomited this as well. I design, however, to give the acidulated milk a more extended trial in the approaching hot season.

Another way of getting rid of a considerable part of the casein, which I have for many years employed, is to allow the milk, as soon as received, to stand for two or three hours, when the casein, from its greater specific gravity, has a tendency to fall, and the cream to rise. The upper portion can then be removed for use. If, as I think is ordinarily the case, this gives too much butter, the superficial layer of cream can be separated and rejected.

Still, there are many infants during the summer months, with whom cow's milk prepared in the usual way does not agree, and will not be likely to agree, however prepared, and condensed milk is found to do no better. For such, a thin gruel made from barley, rice, or wheat flour (the last having by preference been boiled in a dry state, several hours in a bag, and then grated) should be mixed with the milk in equal quantity, or the gruel may be in excess. By such aids we do the best we can to assist the feeble digestive function of the infant, but nothing which we can prepare will take the place of human milk for those under the age of twelve months. Of the various kinds of infant's food found in the shops, Ridge's food, prepared with milk, and Nestle's lacteous farina, prepared with water, have been favorably received, and many infants do well upon them except in the hottest weather. The medical profession will always regard with kindly feelings, the earnest endeavor of the renowned chemist, Baron Liebig, in the last years of his life to prepare a substitute for human milk, so important did he consider the subject of infant diet. Physiology at that time taught that young infants could digest only a very small quantity of starch, since in the first months of life the amount of salivary secretion by which starch is converted into glucose, a necessary change in digestion, is inconsiderable. But now it is ascertained that there is an epithe-

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lial ferment, which effects this change as well as the saliva. As Prof. Flint, Jr., says " * * * the intestinal juice of itself is capable of effecting the transformation of starch into sugar to a considerable extent," and an epithelial ferment in the buccal cavity appears to act in the same way (Richet). Therefore it seems that the youngest infant can digest a moderate amount of starch, though farinaceous substances are not to be depended on as a chief article of diet for any infant under the age of four or five months.

But the theory that starchy food could not be digested, or is digested slowly and insufficiently by such infants led Liebig to the preparation of his food, in which starch is converted into glucose by the action of malt. Now I have used quite extentensively the three preparations of Liebig's food contained in the shops, namely Hawley's, Horlich's, and Mellin's, and although they do well, answering the purpose for which they were designed, in the spring, autumnal, and winter months, I have discarded their use—in the summer season. If employed, except in small quantity, they certainly produce a laxative effect, from the large quantity of grape sugar which they c..ntain, during those months when there is special liability to diarrhœal attacks. With these preliminary remarks, I wish to speak more particularly of the medicinal treatment of summer complaint.

While it is very important that this disease should receive early treatment, unfortunately many cases are allowed to run on for days even weeks before the physician is called. This neglect I find to be due in many instances to the belief common in the community, that a relaxed state of the bowels renders dentition less dangerous and is a relief to it, so that the infant may have half a dozen alvine discharges each day, and the parents believe that they are salutary, till finally they are alarmed by the evident loss of flesh and strength.

As in many other maladies, the medical treatment has materially changed within the last few years. Calomel, formerly administered in small doses in belief that the function of the liver needed rectifying,—this belief arising from the fact that the stools are green in many cases,—has been discarded. The green color is now known to be produced in the intestines at a considerable

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distance below the point where the bile enters it, and to be the result apparently of the admixture of the intestinal secretions with the fecal matter, just as the stools sometimes have the normal color when evacuated and become green from the action of the urine. The old dread of administering opiates to infants, promoted in this country by the perusal of Beck's "Infant Therapeutics," has ceased, in consequence of accumulated observations, showing their good effects, and the little risk which attends their judicious employment. The vegetable astringents, such as kino, catechu, and tannin, are now little used; another agent which is more readily administered, less likely to cause nausea and more effectual, taking their place.

Occasionally it is proper to commence treatment by the administration of a gentle purgative, as a single dose of castor oil, or a mixture of syrup of rhubarb and castor oil, when there is reason to think that the diarrhœa has been excited or aggravated by some irritating substance which the infant has swallowed, and which should be expelled before measures to restrain the stools are employed; but ordinarily no such preliminary treament is required, as the diarrhœa has contiued so long when the physician is called that any fruits or other substances injudiciously given must already have been expelled, or the history of the case shows that no such substance has been taken.

Our main reliance must be on opium and bismuth subnitrate, for the purpose of checking the stools and arresting the catarrh, and, as fermentative changes in the milk usually cause an excess of acids in the intestines, on some alkali, as the preparations of chalk. Opium is useful in checking the intestinal catarrh of infants as it is in that of adults, but I seldom give it or other medicine in the form of powder, experience having taught me that powders are apt to be partly wasted.

For infants under the age of five months opium may be safely and conveniently administered in paregoric, in doses of three drops to an infant of one month, five drops to one of three months, and eight drops to one of five months. For an infant of six months the deodorized tincture of opium should be given in half-drop doses, and for one of twelve months in drop doses. The interval between doses should be about three hours. Opium

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should never be prescribed in those advanced or grave cases in which there is marked drowsiness, or rolling of the head due to incipient spurious hydrocephalus. Refraining from its use for such patients, and giving it in the doses and with the interval stated above, I have almost never had occasion to regret its employment, though prescribing it several times each day during the hot weather, in private and asylum practice. Drops are of very variable size when falling from the mouth of a bottle, and the dropper should always be employed, so that the drop may be as nearly as possible half a minim. The metric system insures more exactness, but we are not yet ready for it in this country. In certain severe cases the opiate may be given for a time every two hours.

The bismuth subnitrate is applicable to all cases, possessing no disadvantanges, and producing no ill effects to limit its use. It may be given safely and with advantage in all stages of the malady as long as there is vomiting or diarrhœa. It is an efficient anti-emetic and antiseptic. It seems to act mainly locally, restraining the stools, increasing their consistence, and producing a soothing and curative effect upon the inflamed surface. It probably retards fermentative changes. It becomes a bismuth sulphide as dark as charcoal in the stomach, as I have observed at autopsies, and if taken in large doses, as it should be, it renders the stools dark. It sometimes taints the breath like that from onions or garlic, but I am informed that this is probably due to some impurity. It has long been in use in practice, but in insufficient and inadequate doses, for infants, until within recent years. An infant of one year should take it in doses of ten or twelve grains, and one of six months in six or eight grains.

Although we do not wish to produce alkalinity within the stomach, as the pepsin in its normal state is acid, and necessarily so for healthy digestion, yet in the "summer complaint" there is an undue development of acids, probably mainly the lactic. Therefore akalies, as lime-water and the preparations of chalk, have long been used in this disease, and with apparent benefit, especially in the more acute cases. Alcohol, in moderate quantity, aids digestion, and is a heart stimulant. It is quickly eliminated from the system of the infant, and should be given at

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intervals of one to two hours to those who require it. It is given best in the form of Bourbon whisky, brandy, or sherry, port, or Madeira wine. It is urgently demanded when, from failing heart action, hypostatic congestion of the lungs or brain is occurring or impending. In spurious hydrocephalus, which complicates many severe and protracted cases, its timely use aids materially in averting the danger. Many years ago Dr. Gooch, of London, was in the habit of employing in such cases of failing heart action the aromatic spirits of ammonia, and in five-drop doses sufficiently diluted in water it is a good stimulant and antacid.

Mild cases do not require special treatment designed to reduce temperature, as it is but moderately elevated. If the heat of the head be moderately increased, a cloth wrung out of cold water should be constantly applied to it, and especially should the nurse be forbidden to cover the head except in the slightest and coolest manner, either in the house or out-door. In those severe cases known as choleriform diarrhœa, or cholera infantum, more energetic anti-pyretic local treatment is required. This form of intestinal catarrh, which usually occurs quite abruptly, having been preceded either by a state of health, or mild diarrhœa, and is characterized by frequent watery stools and rapid loss of flesh and strength, is attended by a temperature unusually high, namely from 104° to 106°, or even higher. Such great elevation of temperature involves danger, and the prompt use of measures designed to reduce it constitutes an important part of the treatment. A bladder containing ice may be applied to the scalp, separated from it by one or two thicknesses of muslin, and the excessive heat of the hands and arms may be reduced by frequent sponging with cool water, and clysters of iced starch-water or mucilage are proper.

To these general observations in reference to the selection and use of therapeutic agents, it may be useful to the young practitioner to add certain formulæ, which, or the equivalents of which, experience has shown to be useful. To control the diarrhœa the following should be prescribed for an infant of one year: ℞. Tinct. opii deodorat. gtt. xvj; bismuth subnitrat. ʒij; syr. simplic. ʒss; mistur. cretæ, ʒiss. Misce. Shake bottle and give one tea-

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spoonful every three hours. An infant of six months can take half the dose. A powder of bismuth, with the compound powder of chalk and opium, or with Dover's powder, has a similar effect.

Vomiting is often a very troublesome symptom, but the bismuth in the above prescription not unfrequently checks it. Its cause is probably not always the same. It is sometimes relieved by lime-water and brandy in milk when due to an excess of acid in the stomach, but the following prescription has given me more satisfaction than any other: ℞. Vini ipecacuanhæ, gtt. ij; bismuth subnitrat, ʒij; syr. zingiberis, aq. menth. peperitæ, āā ʒj. Misce. Shake the bottle and give one teaspoonful whenever there is nausea.

Whenever there are tenesmus or streaks of blood in the stools, and in other cases which are exceptionally obstinate, the following will be found useful as a clyster; ℞. Argent. nitratis, gr. j; bismuth subnitratis, ʒss; mucil. acaciæ, aquæ, āā ʒij. Misce. The whole of it or a part may be given through a glass or gutta-percha syringe, and retained for half an hour or one hour by a compress. Towards the close of the hot weather and in fall months, we are often asked to examine and treat protracted cases, that have been gradually losing flesh and strength since the diarrhœa began several weeks previously. The febrile movement is usually moderate, the appetite poor, the stools are not healthy looking, and probably less frequent than at first, though still too frequent. For such cases the following should be prescribed, which is both tonic and astringent: Liq. ferri nitratis, gtt. xxvij; tinc. colombæ, ʒiij; syr. simplic. ʒiij. Misce. Give a teaspoonful every two or three hours to an infant of one year. The beef wine and iron of the shops, of late extensively employed in New York as a general tonic, also has a good effect, for the iron which it contains is mildly constipating. The dose of it is also one teaspoonful for an infant of one year.

Quinia has not seemed to me to act well in diarrhœal affections of infancy, apparently increasing the number of stools. It should never be used in acute cases. If ever admissible, it is in the chronic and wasted cases as a tonic, and not for its anti-pyretic effect.

The tincture of digitalis as a heart tonic, in cases of impending

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or established spurious hydrocephalus or hypostatic pneumonia, is a good adjuvant. It should be given in one-drop doses every third hour, while more active stimulation by the carbonate or aromatic spirits of ammonia is employed. Digitalis will also probably be found useful in any case attended by weak and rapid pulse, even when there are no symptoms of the complications alluded to.

I have said nothing in reference to the use of pepsin and lactopeptine, for I have never been able to satisfy myself to what extent, or whether they materially assisted the digestive function in this disease. Experiments show that the quantity of food which either one in ordinary medicinal quantity digests is very small.

A NEW REMEDY FOR HYDROPHOBIA.—M. Lesserteur. *Journ. de Méd.*, May 1880.—The author makes known a plant which enjoys a great reputation for the cure of hydrophobia in the kingdom of Annam. This plant, called hoang-nan, is a species of convolvulous, which is closely related to false angustura; its effects should be analogous to those of strychnia and brucine. M. Bouley, in speaking of this new remedy in the *Recueil de Méd. Vétérinaire*, regrets that no case has been cited demonstrative of its efficacy; but thinks that experiments should be made upon the rabbit, which readily contracts hydrophobia by inoculation. M. Bouley relates an anecdote apropos of garlic, a substance which enjoys a great reputation among anti-hydrophobic remedies, and which is an ingredient of a good many formulæ long kept secret. A young man had been bitten by a mad dog and symptoms of hydrophobia soon manifested themselves. The affrighted family, not knowing what to do with the unfortunate, shut him up in a small chamber in which garlic had been placed to dry. In his fury the unfortunate man threw himself upon the bundles of garlic, ate of them abundantly, and soon became drowsy and fell into a profound sleep. On awakening he was cured; the symptoms of hydrophobia had entirely disappeared.

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Summary.

Collaborators:

DR. L. W. CASE, DR. R. TILLEY.

THERAPEUTICS.

THE SILK OF THE CORNSTALK IN THE TREATMENT OF AFFECTIONS OF THE BLADDER.—By Dr. Dassum.—(*L' Union Médicale*, April 5, 1880.)

Since the first article published by this journal (*L' Union Médicale*) numerous observations have been published, which clearly show the value of this article in some of the affections of the bladder. We extract the following from the published reports:

Report of Dr. Dezotteux.—Retention of urine by a man of 70 years. The catheter was used the first evening and the following: the sryup of the stigma of mais, given in table-spoonful doses every four hours, and the next morning the urine passed normally. The syrup was continued for some days, and cure was complete.

Ibid. Cystitis, dysuria. Urine ammonical in a man of 68 years. Three doses of the syrup produced a marked improvement, and eight days effected complete relief.

Report of Dr. Lamy. Retention of urine dating ten years in a man of 78, who was accustomed to catheterise himself. One evening, after a full supper, he could not pass the sound, and finding himself bleeding considerably, Dr. Lamy was called, who succeeded, after great difficulty, in withdrawing the urine. For fifteen days the urine was withdrawn by means of the catheter. It

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had a strong ammoniacal odor, and exhibited morbid deposits. The bladder was washed with carbolized solutions every day. Alkaline drinks were administered and inunctions of belladonna and gelsemium practiced, but all without result. The infusion* of the cornstalk was then administered. From the second day the urine was passed normally and the infusion having been continued for a few days, the retention of ten years disappeared.

Ibid. Retention of urine for twenty years, in a man of 83 who had used the catheter daily. In using the catheter, violent tenesmus occurred and blood followed. Dr. L. administered the infusion of stigma of mais, and after the third dose the tenesmus ceased. During the night the urine was passed, quite colored with blood. The next day the blood had disappeared, and permanent relief followed.

Report of Dr. André. A man, 42 years, has suffered ten years from chronic cystitis, a sequel of gleet. During this time he has complained of pains in the lower part of the abdomen, a burning sensation when passing water, and a bearing down sensation in the rectum and perineum. The urine deposited mucus and uric acid. During the last three years there has existed a constant and imperative desire to urinate. The urine soon became ammoniacal, and finally it passed involuntarily. The classic treatment employed during the ten years was without result. The syrup in question was administered; no other medication. Eight days after, he went to the doctor's office completely relieved.

Dr. Dassum adds that the best mode of administering it, is in the form of syrup made from the extract; three tablespoonsful during the day in water. The syrup represents 27 grams of the extract to the liter.

The value of the silk seems to differ according to the way in which it has been collected or dried.

NOTE.—The French journals have published a good deal of late about the value of the corn silk, but no definite investigation seems to have been made of the active principle.

* Fifteen grammes in 500 c. c. of water during the day.

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ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Aug. 2 and 16.
West Chicago Medical Society—Mondays, Aug. 9 and 23.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde; 3 p. m., Medical, by Dr. Bridge.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof Jones.
Rush Medical College—3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLI.—SEPTEMBER, 1880.—NO. 3.

Original Communications.

ARTICLE I.

ATRESIA OF THE GENITAL PASSAGES OF WOMEN. A paper read before the Chicago Medical Society, July 19th, 1880. By EDWARD W. JENKS, M.D., LL.D., Professor of Medical and Surgical Diseases of Women and Clinical Gynecology in Chicago Medical College.

"Les examples persuadent bien mieux que les simples raissonnements, et l'experience donne la perfection à tous les arts."—Mauriceau.

Definition.—The term atresia, of Greek derivation (ἀ privative and τρῆσις, perforation) and meaning in its literal sense an imperforate condition or entire absence of a canal or orifice, is by custom or conventionally used more liberally; thus, atresia is the term sometimes made use of to designate partial obliteration of a canal, *e. g.*, atresia vaginæ, meaning literally an absence or entire obliteration of the vagina, but custom allows this term to be applied to a condition of the vagina where even the principal part of that passage is perforate, if only a little of it be imperforate. Atresia will therefore be made use of in this paper not in its literal but in its customary or conventional sense.

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History.—In reviewing the history of atresia we find earliest mention made of it in the writings of Hippocrates and Aristotle. Hippocrates, in discussing the diseases of women, makes frequent mention of "obstructed uterus" and "closed neck." He uses the terms rather freely, it is true, but in one instance at least there is no doubt that he is dealing with a case of atresia. He says: "After accouchement the genital parts are sometimes closed by adhesions. I have also observed this when the orifice of the genital parts was ulcerated. Phrontis experienced what women suffer in whom the lochial discharge does not take place from this cause, furthermore she suffered pain in the parts, and on touching them observed that there was occlusion; she mentioned this, and upon treatment the lochia made its appearance; the woman was cured and remained fertile." *

Aristotle furnishes us with more precise details. He points out the origin of atresia, whether accidental or congenital, the possibility or impossibility of cure and the accidents which ensue with the arrival of the catamenia. "There are some women in whom from birth the os uteri is somehow closed; in others this is the result of disease; some of these cases are quite remediable, others not at all." Again: "In some women the os uteri is closed from birth up to the time when the menses are established, then with violent pain the os is torn open by the menstrual impulse, but with other women the obstruction must be dissected away by the physician; some women die after the obstruction has been forcibly removed or its attempted removal has failed."

Celsus has surpassed all his predecessors in describing means for overcoming atresia; he recommended first a crucial incision through the membrane and then its entire excision. For dressing he used a kind of tent, for which he substituted later in the treatment a leaden pipe (*fistulam plumbeam*).

Pliny cites the case of Cornelia, the mother of the Gracchi, as furnishing an example of atresia interfering with delivery.

Aëtius classifies atresias, dividing them into three varieties, according to the location of the obstacle: first at the labia, second in the vagina, third at the mouth of the uterus. He also desribes

* Littré's Hippocrates, Paris, 1855–61.

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means for overcoming each of these varieties and enters into minute details of the subject.

Such then was the condition of affairs when science sought refuge with the Arabian physicians, and such it remained in their hands. That they did but little to advance the knowledge of this subject is largely due to the character of the Mohammedan laws, which forbade the examination of women by men, and hence the practice of obstetrics and gynecology fell almost entirely into the hands of the midwives. Avicenna, however, classified the varieties of atresia according as they interfered with menstruation or delivery; he also described a method of overcoming atresia by tearing an opening with the finger as well as the older methods of operating with a cutting instrument.

At the end of the fifteenth century Benivieni drew attention to to the first observation of imperforate hymen. In the sixteenth century Wier, Fabricius ab Aquapendente, Cabral and Felix Plater imitated Benivieni by inserting in their works facts which Jean Schenck collected some years later; although they form a compiled work, still the "*Observationes Medicæ Rariores*" is a book of great merit, and it is to be regretted that it was not more frequently consulted; by taking no notice of it many writers condemned themselves to mutual repetitions and barren paraphrases; still facts multiplied and happily observation continued to have its followers. Bauhin, Ruysch and Bartholin made up a contingent that surgeons, and especially *accoucheurs*, ought to extend their knowledge, citing with grateful recollection the names of Guillemeau, Dalechamps, Mauriceau, and Roonhuysen.

Still, notwithstanding the impulses given to the work by these men, progress in this branch of surgery was slow enough, bibliographers displayed no great zeal in research, and the most eminent surgeons were careless of recording success or failure in their operations. This condition only reached an end with the middle of the eighteenth century, and to Heister is due the honor of taking the initiative in the reform which followed. Instead of imitating his predecessors, he collected facts and wrote, so to say, at their diction the two chapters which he devotes to this affection. Following him a host of writers have touched upon the

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subject, but they have all been surpassed by Boyer, whose method and perspicuity are inimitable.

Since then the subject has been treated anew, and at greater or less length, but still with a deplorable slothfulness for research. In a subject where personal experience is necessarily limited, and where conclusions cannot have the force of laws unless based upon a considerable number of facts, we are often content with the precepts furnished by learning easy of acquisition, and we believe that our own task is finished when we have gathered together a score of cases, but these are not the means by which we carry conviction, or by which we definitely establish a course of operations both difficult and eminently dangerous.

Nevertheless, if our age has been disdainful of research it has certainly not made sport of such material as has come in its hands —it has been registered by the press, and been given a broad publicity, and it has known how to realize notable progress in an operative point of view; cases reputed hopeless have been attacked with success and bold surgery has reached its utmost limits.

Puech, to whom I am greatly indebted for much pertaining to the history of my subject, is of the opinion that Amussat and Debrou are the two names distinguished above all others among moderns in the treatment of atresia.

Coming down to our own day, and without particularizing individual achievements, we will merely add that the brilliant results which have been achieved in this branch of surgery in our own and other lands are not confined to a limited few; their names are legion, hence a complete modern history of the surgery of atresia would make too lengthy an article, and include a long list of names, many distinguished and some obscure.

Varieties of Atresia.—Of atresia of the generative passages of women we recognize the three following varieties in accordance with their localities: (1) Vulvar, (2) Vaginal and (3) Uterine. Any one of these varieties may be congenital or accidental, also complete or incomplete. The three kinds which have been named may be associated together in one individual, either congenitally or from traumatic causes.

Vulvar Atresia.—(*a.*) The labia majora may be adherent, but on account of their conformation and relative anatomy such adhe-

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sions do not prevent the exit of the menstrual blood, but sometimes do interfere with micturition and then calculi are formed, which of themselves require surgical interference.

(*b.*) The adherence of the labia minora like the same condition of the greater lips is usually the result of accident or disease, giving rise to the same difficulties of voiding urine. Unlike adhesions of the labia majora, adhesions of the labia minora may cause retention and accumulation of menstrual blood.

Atresia of both the greater or lesser lips may be consequent upon small pox, measles, or any constitutional or local disorder that can cause inflammation and denudation of their mucous surfaces. Such occurrences are without doubt more common in infancy and childhood.

(c.) Atresia of the hymen is one of the forms included under the heading of vulvar atresia, although not usually so designated, but it is generally spoken of as an imperforate condition. Imperforation of the hymen is of more frequent occurrence than either of the other forms of vulvar atresia. M. Puech*, who has written an excellent monograph on the subject considered in this paper, mentions one hundred and fifty-one cases, of which some were simple and some complicated with atresia in other parts of the genital passages. This author has observed seven cases, and from various sources has collected accounts of one hundred and forty-four others, making the above total of one hundred and fifty-one. He does not include in his list any cases ocurring prior to the age of puberty, and states that if such were to be added, one would be authorized in regarding imperforation of the hymen as an abnormality the most common. Emmet†, with his vast experience, mentions having met with only four cases of retention of the menses due to an imperfect hymen.

II. *Vaginal Atresia.*—This form may be congenital or accidental, as is the case with the other atresias, and also, like them, may be complete or incomplete. Courty‡ and Puech§ recog-

* De l'atresia des voies génitales de la femme par Le Dr. Albert Puech in 4° 165 p. Paris, 1864.

† Principles and Practice of Gynecology, by Thomas Addis Emmet. Philadelphia, 1869; page 211.

‡ Courty, Traité Pratique des maladies de l'uterus, des ovaries et des trompes. Paris, 1872.

§ Op. citat, page 11.

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nize three varieties of congenital atresia, viz: simple, complicated and complex. They are called simple when the vagina alone is involved; complicated when there is atresia of both the vagina and the neck of the uterus; and complex when the vagina, being double, one of the canals is imperforate. The comparative frequency corresponds to the order in which they are here named, the last one mentioned being extremely rare. Its rarity can be readily inferred from the fact that Rokitansky observed only three cases among sixty-two of congenital vaginal atresia, all of the subjects being adults.

Courty mentions the infrequency of this form of atresia, and states that "none have been observed except by M. Leroy, M. Rokitansky and M. Décés."

There are probably some unrecorded cases, and some that Courty has not heard of. The writer has seen one case in the person of a Polish woman, who came to his clinic to be treated for uterine disease. She was single and twenty-four years of age. I am of the opinion that the adhesion which was in the left vagina might have been from vaginitis, as it was very easily made perforate, after which her double vagina was several times shown to the class, and the atresia examined by touch and by speculum, sometimes through one vagina and sometimes through the other. Some of the peculiarities of this case will be further spoken of when describing the cases which I have tabulated as coming under my own observation.

III. *Uterine Atresia.*—Atresia occurs less frequently in the uterine canal than in any other part of the generative passages. From all published accounts obtainable by Puech, the grand total sums up only fifty-six cases. There is not the least doubt that there have been many cases, recorded and unrecorded, which were unknown to this writer, especially in our own country, where surgical gynecology has had so many valuable contributions.

The same might be said of the statistics of Puech as regards other varieties of atresia already mentioned, and the first thought regarding them might be that they are of but little importance, but, although incomplete, they are none the less valuable as showing the relative frequency of the different varieties of atresia.

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Nonat *, in his chapter on "Imperforations, or complete congenital atresia" of the uterus, states that "sometimes there is seen the opening of the mouth of the womb, completely masked by a sort of membranous diaphragm, being a dependence and prolongation of the mucous membrane which covers the lips of the uterine neck. When this membrane is obliterated, the cervical canal is found of the normal caliber."

J. Cloquet † calls attention to this fact, also, by stating that "Ruysch reports the case of a woman in labor three days without advance. The head could be felt in the vagina, covered with a membrane of great density, which closed the vagina. Ruysch incised the hymen, without any result. He then divided the second membrane, which was situated more deeply when the accouchment was rapidly and happily terminated."

The obliterations are, as a rule, limited to the interior portion of the neck. After diligent search I have been unable to find on account of a single instance where there existed an obliteration above the os internum, or even of the entire isthmus.

Atresias are first distinguished according to their location, and secondly all are included under the division of congenital, or accidental. By most writers the congenital are called imperforations, while the accidental cases are termed obliterations.

Etiology and Pathology.—Of the etiology of congenital atresia or imperforation it can only be said that there is arrest of development. The arrest in the complete atresias occurs in the early part of embryonic life. In vaginal atresia it often happens that arrest of development seems to be confined to the canal alone while the other genital organs develop as usual. This arrest of development may be complete or partial and in either instance the vagina fails to become a distensible canal. In some instances there is complete atresia, but the development occurs notwithstanding the existence of imperforation. Under such circumstances by rectal examination the vagina can be felt as a hard fibrous cord. The presence or absence of this cordlike vagina is of major importance as bearing upon prognosis and treatment.

* Nonat, Mal. de L'uterus. Paris, 1869; page 108.
† Dict. des Sciences Médicales. Bruxelles, 1829; art. Imperforation.

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The etiology of congenital atresia is explained by Puech and others about as follows:

The female generative organs are developed in three zones. The internal zone has its origin in a blastema lying close to the Wolffian body. The ovaries are developed along its internal border, the Fallopian tubes along its external border, while the uterus is formed where the two borders meet, constituting the "genital cord."

The external zone is developed from a tubercle which makes its appearance at the caudal extremity. This, at first a simple elevation, is bisected by a groove, which deepens until it becomes a *cul-de-sac*, forming the cloaca. As for the tubercle, after dividing, it forms two slight elevations on each side of the groove, the upper two of these uniting above but remaining separate below form the labia majora and the clitoris, while the two inferior elevations develop into the labia majora.

The intermediate zone, from which the vagina is formed, is developed in the blastema, situated between the rectum and the bladder, immediately above the median perineal aponeurosis. This developes into a canal running from the vulvar opening to the neck of the uterus.

In cases of imperforation of the neck of the uterus the origin of the trouble is the same, development having stopped in the internal zone; exception being made in cases where the obstruction is due to a reflection of the mucous membrane of the vagina over the neck of the uterus.

Of accidental atresia or obliteration of the vagina there are pathological causes easily discerned. Injury or disease being the only causes, it simply remains in individual cases to determine the character of the injury or the relationship between obliteration and some co-existing disease. A vagina fully developed may be closed from the adhesion of its walls or its caliber may be diminished, constituting partial obliteration by the reparative process, which succeeds sloughing or true vaginal ulceration. I have myself seen three cases of almost complete vaginal atresia, complicated with vesico-vaginal fistula. There was a very marked similarity in the history of these three cases. In each one the fistula and atresia were in consequence of inflammation

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and sloughing following delayed labor and the unskillful delivery of a dead child. Two cases are reported by Courty* of accidental vaginal atresia associated with vesico-vaginal fistula.

Prolonged and difficult labors or the improper use of obstetrical instruments are among the most frequent causes of this form. Partial or complete obliteration may also follow easy non-protracted labors, and where instruments are not brought into requisition, yet in consequence of impaired vitality inflammation and loss of substance of the vagina ensues and subsequently atresia. Chemical agents locally applied to the uterus or vagina in the treatment of diseases of those parts, syphilis, vaginitis from any local or constitutional cause or any disease which produces ulceration or sloughing of the vagina are among the causes of this affection. Puech mentions three cases resulting from attacks of cholera. Courty† states that excessive and improperly performed coition, diphtheria, typhoid fever, caustic applications to the neck of the uterus, and particularly small-pox are some of the causes of atresia. Thomas‡ makes mention of a vaginal atresia produced by the passage of a sharp stick of wood, also of one caused by the retention for two hours of the trunk of a dead fœtus, the head having been previously delivered. This same author also alludes to an excellent article written upon this subject by Dr. Trask, based upon thirty-six cases, fifteen of which were due to prolonged labor. I have myself treated two cases of complicated vaginal atresia caused by the improper use of obstetrical instruments in childbirth.

There are some peculiar differences between congenital and accidental atresia and notably the following: If an atresia of the vagina is congenital, the canal is usually adherent throughout its entire length. On the contrary if it is accidental only a portion of the canal will, as rule, be obliterated; the upper extremity, the lower extremity or the middle portion of the vagina will be imperforate, while the remaining portions will be perforate.

Symptoms and Prognosis.—Vulvar atresia, with the exception of that form where the hymen alone is involved, is, as a rule,

* Op. citat., p. 398.

† Op citat.

‡ Diseases of Women. By T. Gaillard Thomas. Philadelphia, 1874, 4th edition. p. 162.

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discovered in early childhood. On the other hand, attention is not usually called to the remaining forms until there are some pronounced symptoms indicative of their existence, such as inability to perform the marital act, or delayed menstruation, the patient being considerably beyond the age at which the catamenia is usually established. It has frequently happened that girls have for a long time, even for years, been under treatment for amenorrhœa until health had disappeared, when finally an atresia was found to have been the sole cause of the non external appearance of the menstrual flux. A girl may have the *molimen menstruale* and yet the flow of blood from the mucous surface of the uterus which occurs coincidently, instead of being discharged from the genital passage is retained by means of an imperforate hymen, and sometimes for a long period without the general health being affected. It is when the accumulation becomes so great that an additional amount threatens to rupture the Fallopian tubes or uterus, or be forced through the tubes into the peritoneal cavity, or there is evidence of blood poisoning that the health begins to be impaired. A physical examination under any of the circumstances just mentioned is demanded and should be insisted on. With any patient when there are indications of atresia in any part of the genital passages with impairment of health it is a duty on the part of the physician to make a physical examination for the purpose of ascertaining whether any local cause for the symptoms exists. Besides this there are often in such cases other questions hinging upon the physician's opinion aside from mere health. There are questions of happiness or misery to the individuals and families involved, if marriage is contracted, when the woman has any abnormalty about the sexual organs. This topic needs no elaboration. The duty of the physician is obvious, plainly so. One point I would insist upon, is that marriage or even an engagement should not be permitted if the woman has never menstruated, unless competent medical opinion sanctions it after thorough physical examination. On this particular point, a case of interest to myself at least, came under my observation. A young lady of an excellent family, while away from home, became engaged to a young man whom she met for the first time on the occasion of the visit. Soon after return-

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ing to her own home her mother wrote to the young lady's *fiancé* that there were reasons why the engagement should not be continued until medical opinion authorised it. The girl had never menstruated, although well developed in person, in fact the external organs of generation were perfect, even the mammary glands being of more than usual size. Several medical gentlemen of eminence were consulted, and all of them concurred in the opinion that marriage was allowable. She did marry and just nine months from the day of marriage, gave birth to a healthy boy, and has since had other children, but her menstrual history has been peculiar. She menstruated for the first time after she had weaned her first child. Menstruation has never lasted for an entire day, but usually only during four or six hours. Except when pregnant or nursing, it has been regular, unattended by pain, sometimes quite profuse in quantity, yet never of longer duration than before mentioned.

The number of patients with atresia of the genital passages of all varieties which have been treated by me is seventeen. Of this number eleven were congenital, and six were accidental. For the purpose in illustrating what has already been said, and what still remains to be considered within the limits of this paper, the cases referred to are here tabulated as follows:

TABLE OF CASES OF ATRESIA OF GENITAL PASSAGES OF WOMEN.

No.	*I. Congenital Variety.*	*Age.*	*Remarks.*
1	Vulvar atresia of labia minora.	4	Operation and cure.
2	Vulvar atresia of labia minora.	12	Operation and cure.
3	Vulvar atresia of labia majora.	14	Operation and cure.
4	Imperforate hymen.	10	Operation and cure.
5	Imperforate hymen, with vaginal walls adherent for an inch and a half in the inferior portion of the canal, constituting true vaginal atresia.	20	Signs of blood poisoning from retention, the vagina being distended with menstrual blood so that fluctuation was plainly discernible. Operation successfully made.
6	Complete vaginal atresia.	22	Operation begun but not completed, for reasons given in the text. No menstrual accumulation.
7	Double vagina. Complex vaginal atresia.	28	Atresia of one vagina, probably from vaginitis. Dilation easily accomplished.
8	Absence of uterus.	34	Patient married; was subject to epileptic convulsions occurring every four weeks.
9	Complete uterine atresia.	20	Patient single. Case reported in one of my clinical lectures in *Obstetric Gazette*, January, 1880.

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TABLE OF CASES OF ATRESIA, ETC.—CONTINUED.

No.	I. Congenital Variety.	Age.	Remarks.
10	Partial vaginal atresia, interfering with labor.	25	Labor could not be completed until the parts were incised.
11	Atresia of the upper portion of the vagina.	30	Patient married. A rudimentary uterus could be felt very indistinctly per vaginam, but plainly per rectum. No menstrual accumulation.
No.	**II. Accidental Variety.**	**Age.**	**Remarks.**
12	Partial vaginal atresia in upper portion of canal, caused by application of caustics to the uterus.	31	Patient married. Uterus could barely be touched with the finger. Operation and cure.
13	Partial vaginal atresia, with vesico-vaginal fistula.	29	First operated upon for atresia, the vagina barely admitting the little finger—a second operation was required for the fistula.
14	Partial vaginal atresia, with vesico-vaginal fistula.	19	First operated for atresia, which occupied the middle portion of vagina, not permitting a view of the fistula or cervix uteri. Afterwards operated for the fistula, which was bounded on one side by the cervix uteri—urethra obliterated.
15	Partial vaginal atresia, with vesico-vaginal fistula.	27	This case was similar to the above one except as regards the obliterated urethra.
16	Vaginal and uterine atresia or complicated atresia.	30	Caused by protracted efforts on the part of several physicians in delivering the patient of a dead child at full term. Following delivery there was severe pelvic inflammation, pelvic abscesses, and a discharge of pus for months. The upper portion of the vagina and the cervix uteri were occluded. Menstrual accumulations were found, and alarming symptoms occurred at menstrual date from threatened rupture. Successful operation. (*Detroit Review of Medicine*, June, 1876.)
17	Vaginal atresia, with large uterine fibroid.	38	Reported in *Chicago Medical Gazette*, in March, 1880.

COMMENTS ON THE FOREGOING CASES.

It will be observed that in the above list numbers 1, 2, 3 and 4 were quite young subjects, and consequently no serious trouble had resulted from the abnormality. But little comment is necessary in connection with them. The discovery of the malformation, whether accidental or resulting from the watchful care of mothers, led to speedy cure before the occurrence of menstrual accumulations. Two of the number, however, had attained the age at which the menstrual function is usually established, while number three had, previous to the surgical operation, experienced the *molimen menstruale* very markedly and menstruated soon after.

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I shall briefly allude to the remaining cases at greater length than in the remarks of the tables, but will not in every instance follow the order in which they are tabulated but in such sequence as seems proper from their mutual relations.

Case number 5 was a domestic, who had been dismissed from employment and denied admission to the homes of her friends because of the belief that she was pregnant. One lady, however, by whom she had been employed requested her own physician to see her and determine the cause of her enlarged abdomen. This physician, who unfortunately was not a regular one, but one who was accredited with great shrewdness, declared the girl in the latter months of pregnancy, and so the poor girl was again sent out in disgrace. A benevolent gentleman, and one of the most distinguished public men of Michigan, learning in some way of this girl, and, believing the story of her innocence to be a true one, sent his housekeeper to provide a place for her, and desired me to ascertain the cause of her peculiar appearance. I found, as I then believed, an imperforate hymen only, and by rectal examination an accumulation of menstrual blood. When I came to operate in this case, however, I found more than an imperforate hymen—there was atresia of the lower portion of the vagina to the extent of an inch or more. After incising there was a discharge of several ounces of menstrual fluid of the usual tarry consistency, whereupon the vagina and uterus were syringed out with warm water. The operation itself requires no special comment in this place; suffice it to say that it combined the tearing and cutting processes, followed by the use of vaginal plugs until the parts were healed.

The patient numbered 6 in the list was a young lady twenty-two years of age, who had been treated by regulars and irregulars, of all kinds and creeds, during a period of several years to "bring on her courses." Among the multitude of her medical attendants not one had suggested the propriety of making a physical examination until she became the patient of Dr. G., a painstaking and skillful physician of the town where she resided. I was called to see the patient with him, and we discovered the cause of the amenorrhoea to be a complete vaginal atresia, but there was no accumulation of menstrual blood. The external

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organs of generation exterior to the vagina were well developed as were also the mammary glands. The mons veneris was covered with hair, which is not usually the case unless the ovaries are developed. By examining per rectum a uterus could be felt, although quite small. By means of a sound in the bladder and a finger in the rectum the vagina could be plainly felt as a large round cord. An operation to construct a vagina, or rather to dilate the rudimentary one already existing, was proposed and begun by carefully opening the canal for about an inch and a half and using tents to keep it open. This was prior to the adoption of the mode of exploration by dilating the urethra and examining the interior of the female bladder with a finger. I deemed it my duty to say to the mother of the girl that marriage, under the circumstances should not be thought of, but that if the operation ultimately succeeded then would be the time to decide the matrimonial question. The girl, it seems, was engaged, but was willing to wait until the propriety of marriage could be decided by the success or failure of the surgical procedures. The lover, however, learning the true state of affairs, suddenly emigrated to a milder climate, and the girl herself was so disgusted with his course that she pulled out the tents from the partially constructed vagina and vowed to lead a life of celibacy. Consequently what might have been accomplished in her case will never be known. In my own mind there is no doubt that complete success would have attended the operation in due time, that is to say, a vagina would have been opened, not constructed, in evidence of which was the fact that the cordlike vagina could be so distinctly felt.

Patient No. 7, with a double vagina, has been sufficiently spoken of under the head of vaginal atresia. This case represents that rare form of artesia designated by Puech, Courty and others as complex, viz: a double vagina, with one canal imperforate.

Case No. 8 was referred to me by Dr. Dayton, of Lima, Indiana, with whom I saw her, and from whom I learned the peculiarities of her medical history. She was thirty-four years of age, a brunette of spare form, and had been married for several years, the exact number I did not learn. Following her marriage she had become subject to epileptic convulsions; at least they were so

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designated, but they may have been merely epileptiform, or hystero-epileptic. These convulsions occurred once a month, and coincident with a marked *molimen menstruale*, and occurred at no other time. Her external organs of generation were well developed, giving sufficient evidence of fully developed ovaries. She acknowledged possessing a keen sexual appetite, and her husband stated that it was at times rather aggressive. The vagina was simply a pouch of normal length, but without the vestige of a uterus to be felt within or beyond it. But by rectal exploration a rudimentary uterus of minute size could be plainly felt, as could also the converging round and broad ligaments. As it was manifest that the epileptic or epileptiform convulsions occurring as they did coincident with the *molimen menstruale*, were of ovarian origin, I proposed Battey's operation as affording the only possible means of relief, but the patient would not consent to it, and, soon after, passed beyond my observation.

Patient No. 9: An account of this case was published in the *Obstetric Gazette* for January, 1880, as a clinical lecture, by Dr. Helms. The patient alluded to, an inmate of Mercy Hospital of this city, was a girl of twenty, with perfectly developed external organs of generation, the mammæ, indeed, being larger than common. The patient longed to be relieved of the distressing symptoms which marked her case, and which occurred once a month, such as congestive headache, severe pelvic and abdominal pains, etc. These symptoms had of late been progressive, and had attained such severity as to be alarming. There was no accumulation of menstrual blood; the vagina was of normal appearance, size and length, but the cervix uteri appeared by speculum examination as a mere nodule, without the least indication of a uterine canal. By rectal examination, the uterus was found to be about three-fourths of an inch in length, thus indicating arrest of development with atresia. This patient, as before remarked, was the subject of a clinical lecture, and the condition of things as described was shown to my class. As no uterine canal could be found by ordinary means, I clipped off with scissors a small fragment of the rudimentary neck, but no further signs of a canal were discovered; still this procedure proved of great service, as the loss of blood near the time of approaching *molimen* materially

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lessened her sufferings. The only chance of a radical cure seemed too formidable to advise until milder means had been exhausted. The radical cure was removal of the ovaries; but, from the fact that the abstraction of blood immediately preceding the *molimen menstruale* had so greatly alleviated her sufferings, I advised the periodical abstraction of blood, by means of leeches applied to the perineum. As long as I continued to hear from the patient, this plan proved successful.

Case No. 11 was in the person of a primapara whom I attended in labor. She was a woman of unusual size, with a correspondingly large pelvis. Labor progressed favorably until the child's head was in the pelvic excavation, when it stopped. Making a careful examination, I now discovered that there was partial atresia of the lower portion of the vagina. Here the obstructing membranes being put upon the stretch by the process of labor gave the appearance of a broad band, and, while in this tense condition, I made an incision through them fully three inches in length. The incision once made, laber was completed in a brief space of time. The atresia was simply a semilunar-shaped hymen, which, not having been previously ruptured, remained an obstacle to the free egress of a full-sized fœtus.

The case of patient No. 11 presented some similarities to that of No. 8. The remarks in the tabulated list in connection with this case comprise about all that is requisite for this paper. This woman consulted me for the purpose of ascertaining whether or no she could be successfully treated for sterility. She was thirty years of age, of spare frame. The external organs of generation were not perfectly developed; the labia presented a shriveled appearance; the *mons veneris* was scantily supplied with hairs; the mammæ were small, with but little gland structures; the vagina was sufficiently capacious, but not of usual length, ending in a blind pouch, which gave no appearance of a uterus, which organ was only discoverable by firm pressure in the hypogastrium, or by rectal examination, in either of which cases a rudimentary uterus could be readily felt. The case was simply one of partial vaginal atresia of this congenital variety, with non-development of the uterus. I could not advise or institute any surgical pro-

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cedures or treatment, as there were no urgent symptoms making such demands.

The remaining cases which I have tabulated are all non-congenital, the results of either injury or disease.

Patient No. 12 consulted me on account of uterine disease, for which she had already been receiving treatment during the previous two years. This was at a time when all real or fancied uterine diseases were subjected to the application of caustics. Such had likewise been the local treatment in the case of the patient now under consideration. She said that the stick of caustic had often been left in the mouth of the womb; that the treatment had been very painful, and particularly the last time the caustic had been applied, when a large stick of it had been used. For some days she was unable to walk, and finally a discharge of pus and blood set in. Three or four months had now elapsed since the last application, but, although the painful symptoms had subsided and the discharge of pus ceased, she was conscious of something abnormal, as coition could not be perfectly performed, and all attempts caused severe pain and oftentimes discharge of blood. An examination revealed the vagina almost obliterated in the upper portion, so that a finger could with great difficulty be made to force its way to the cervix uteri, while the cervix itself was bound to the left side of the vagina by firm adhesions. The cause of this partial atresia was, without doubt, the free use of caustic, which was dissolved in the vagina instead of the uterus. A cure was effected by means of cutting with scissors a portion of the adhesive bands, and by constant use of vaginal plugs.

Cases 13, 14 and 15 will receive but little comment, as a brief allusion will be sufficient. A full and succinct history of each one would be of more interest as relating to vesico-vaginal fistula than to the subject under consideration. Every one familiar with vesico-vaginal fistula knows that one of the most frequent complications met with is that produced by the presence of cicatricial tissue, which is often in the form of bands of greater or less dimensions. It may be considered an unusual case, as far as my own experience goes, that has no cicatricial bands in the vagina. The patients here referred to, however, had more than cicatricial

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bands, in consequence of the causes producing fistula. There resulted, in each case, almost complete obliteration of the vagina, fully entitling each one to be designated as incomplete vaginal atresia. In No. 13 the little finger could with difficulty be crowded into the vagina, requiring two operations preliminary to the one for the fistula, and also the use of dilators. Not until after the first operations had been performed could either the neck of the uterus or the opening into the bladder be felt or seen. Nos. 14 and 15 were similar to the case just mentioned, there being vaginal obliteration to such an extent as to necessitate an operation before the fistula could be seen or felt.

Patient No. 16 was a case of unusual interest to the writer, at least. It was one of those cases of which it is extremely difficult to describe all the particulars so that one not seeing and examining the patient can scarcely get a clearly correct opinion of the complications and difficulties of the operations made for her relief. I am not alone in this opinion, for several gentlemen present at the time I operated expressed themselves similarly. Among this number was Dr. Johnson, of Detroit, a former pupil and assistant of Simon, of Heidelberg, and Dr. H. O. Perley, Asst. Surgeon U. S. A., at that time a resident of Detroit. An account of the case was published in the Detroit *Review of Medicine* for June, 1876, from which I will give a brief abstract: *

"Mrs. C. of Ohio, consulted me on January 12, 1876, with reference to an operation for atresia, which she stated was caused by the delivery of a dead child May 10, 1875. She was confined to her bed for six weeks after delivery on account of inflammation of the womb and vagina; subsequently abscesses formed within the pelvis, and discharged externally from time to time up to the date of her visit to me. Three months after delivery there were symptoms indicating the appearance of the menses, with some constitutional disturbance. A month later there was again the *molimen menstruale*, with increased pain and more general disturbance; the pain was progressively severe with each return of

* "Atresia vaginæ et uteri; produced by instrumental delivery of a dead child; operation and cure." By Edward W. Jenks, M.D., Professor of Medical and Surgical Diseases of Women, Detroit Medical College, Detroit. *Review of Medicine*, June, 1876.

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the menstrual date, and had become so alarming that, at the time of her visit to me, both she and her husband earnestly desired that some step be taken for her relief before the return of another attempt at menstruation. * * * * *
Physical examination of the generative organs revealed a laceration of the perineum to the margin of the sphincter ani externum; the vagina was closed superiorily, nor could any portion of the uterus be felt in this canal, neither could I, by any means of speculum and probe, find any trace of the upper part of the vagina in the abundant cicatricial material which obliterated it. It seemed at first as if the vagina was about the normal length, and that it was only a short distance to the neck of the uterus, and yet it could not be felt. This state was further explained by a rectal examination. By the rectum the body of the uterus was felt very high and retroverted, and apparently held in that position by firm adhesion, as if the inflammation had extended to the pelvic peritoneum simultaneously with the vaginal and uterine inflammations. Besides this the vagina was an unusually long one, and its apparent length at this time is explained by still another reason, namely, the great size of the patient, who weighed two hundred and eighty pounds. The abdominal walls, burdened with fat, rendered conjoined manipulation of little service in diagnosis or in the subsequent operation. The same condition of the labia majora made the vagina seem long, and rendered ocular examination more difficult than usual." * * *
The patient being placed in the exaggerated lithotomy position, the pelvic organs were fixed by the pressure of an assistant's hand on the hypogastrium. I then, with sharp pointed scissors, carefully cut a portion of the cicatrix in the presumed direction of the uterus, occasionally ascertaining the safety of my incisions by introducing a finger into the rectum, or the sound into the bladder. I soon found my finger and sound in close proximity, showing the necessity of great caution lest I should cut either into the peritoneum or into the bladder. After cutting through upwards of two inches of cicatrical tissue I reached the uterus, but as there was no indication as to the locality of the os uteri I separated a portion of the neck from its morbid vaginal adhesions, but the os was not apparent, nor was there anything in the

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appearance of the enucleated neck to indicate the route into the cavity of the uterus, so I then cut with a pair of very delicate and sharp pointed scissors in the direction of the uterine canal for about an inch, when there gushed out between two and three ounces of menstrual blood. The uterine canal being now discernable, I enlarged the opening still more and cut away the cicatrix from the newly made os. A tent of lint was put in the uterine canal and the newly opened portion of the vagina packed with the same material, when the patient was put in bed. But little blood was lost during the operation aside from the menstrual blood, and when the patient was restored to consciousness she was kept free from pain by moderate doses of morphine per rectum. The next day the lint was removed and a fresh quantity put in with the finger, for the purpose of preventing union by first intention. The patient complained but little of pain, and after the removal of the first tampon there was but little oozing of blood. The fourth day after the operation word was brought me that Mrs. C. had a "chill," and complained of quite severe pain in the abdomen. It was several hours before I saw her, but when I did I was gratified to learn that the rigor and pain were simply the ushering in of the menstrual flow, and that she was now free from pain. The catamenial discharge continued five days, as was her former custom. This I considered a happy occurrence, so soon after the operation, as the danger of closure of the wounds, especially within the uterus, was by this opportune discharge greatly diminished. The patient rapidly recovered her usual health, and three weeks later returned to her home." * * * "In conclusion, there are certain points of interest in connection with this case to which attention is directed: *First.*—The dangers as marked by the symptoms of rupture of the Fallopian tubes or regurgitation of menstrual blood into the peritoneal cavity, if the operation had been much longer postponed. *Second.*—The complications from traumatic causes, viz: a retroverted uterus, bound down by peritoneal adhesions, obliterating a portion of the uterine canal, and the locality of the cervix uteri obscured by a great quantity of vaginal cicatricial tissue, to which may be added the difficulties attending any manipulation on account of the size and obesity of the patient. *Third.*—The

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advantage of operating just preceding the regular catamenial date, as was manifested in this case, by the menstrual blood keeping the newly opened canals pervious in a better manner than could be done by tents, or any other device."

Case number 17 was reported in the *Chicago Medical Gazette* in March, 1880, under the following heading: "Supposed Inversion of the Uterus—Fibroid Development of Posterior Half of Uterus and Vaginal Atresia." A full relation of the peculiarities of the case would contain much that is not pertinent to the subject of this paper. It will suffice to say that there was almost complete vaginal atresia, the perforate portion of the canal barely admitting a small sized probe. The atresia was overcome by lacerating or tearing with the finger, so that a diagnosis of the exact condition was easily determined. The spherical character of the tumor together with the atresia was what led to the belief that it was a case of inverted uterus. The atresia doubtless had its origin in vaginitis, which I judged from the history of the case as related to me, was caused by the application of caustics, employed for some reason past discovery in the treatment of the patient.

Treatment.—The treatment to which I have subjected my own patients has been set forth in the reports of individual cases, but the subject is of sufficient importance to be more fully discussed.

At the Baltimore meeting of the American Gynecological Society an excellent paper was read by Prof. Isaac E. Taylor, of New York, entitled, "Atresia of the Vagina, Congenital or Accidental, in the Pregnant or Non-pregnant Female." I was not present at the meeting, and, owing to delay in publishing the society's transactions, did not have the privilege of reading Dr. Taylor's paper until the principal portion of this one was written. Dr. Taylor's paper I consider a valuable addition to the literature of the subject, as his own experience has been large and varied. He has also drawn from the experience of others. The subject is one which has not been written upon very extensively, the literature consisting chiefly of the reports of cases. Dr. Taylor's paper possesses an interest in one particular, to which I have merely made brief allusion; that is the association of pregnancy with complete vaginal atresia. It does not discuss the whole

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subject of atresia, for he announces in the first clause that he desires to confine himself "to cases of complete congenital atresia and to accidental absence or atresia of the utero-vaginal canal in the pregnant and non-pregnant woman." This writer further states that, "Cases of congenital absence of the vagina are rare; cases of the same nature existing during pregnancy and involving two lives are still more so."

He relates a case of complete congenital atresia of the vagina, where the woman became pregnant and was safely delivered, at full term, of a living child. He also refers to a case of Dr. Simmons, extracted from the St. Louis *Medical Examiner* for February, 1847, of a similar character, and yet, in each one, the physicians were unable to find the minutest opening between the lower or more external portion of the vagina and the uterus. By Dr. Simmons this question is asked: "In what manner did conception take place?" Dr. Taylor, referring to his own case, and in the same connection speaking of Dr. Simmons', gives a "solution of the mystery." As the discussion of this question is not strictly pertinent to the present paper, it will not be further considered.

The treatment of all forms of atresia cannot be otherwise than surgical, and, with the exception of certain forms of partial atresia, all may be considered of great importance, requiring care, caution and skill. Even the operation for an imperforate hymen, so simple in itself, has many times proved fatal. Bernutz* lost four patients; Thomas† mentions two fatal cases, one of which, indeed, was his own. Sir James Y. Simpson collected the history of several cases where the operation proved fatal; while, scattered through medical literature in general, may be found the reports of many of these operations, which resulted in the death of the patient. Simpson mentions a case of death, in which there was occlusion of the vagina from adhesion, the septum being quite thin, but, as the menstrual blood was retained, a small incision was made, through which there poured out, during a number of days, large quantities of the usual dark grumous fluid. Surgical fever set in on the third day after the incision was made,

* Clin. Méd. sur les Mals des Femmes. Tome 1, p. 303.

† Diseases of Women. By T. Gaillard Thomas, Prof., etc. Phila., 1879.

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and in a few days more the patient died. An autopsy revealed a distended uterus with inflamed walls, and inflammation extending thence to the peritoneum. The mistake made by the operator in this case was the small incision and neglect to wash out the cavity, as undoubtedly the entrance of air had caused decomposition, resulting in death from septicemia. This is a point which will be discussed later.

"It is conceded," says Dr. Taylor, "that, no matter what the exact nature of the obstruction may be, the accidents which cause death after operation are almost identical." While I would accept this as in the main true, it still seems to me that the statement requires modification.

There are three causes producing death, which are not identical in their nature; they are septicemia, inflammation and rupture; consequently, it seems to me, that it could with greater propriety be said that the deaths which occur in consequence of operations, no matter what be the nature of the obstruction, are generally due to septicemia, inflammation or rupture; in some instances to a combination of these causes, and occasionally to the shock of rupture alone, without the supervention of either septicemia or inflammation. Unquestionably septicemia ranks first as the most fatal, particularly after operations for vulvar or vaginal atresia. This being the case, the prophylaxis of blood-poisoning is of paramount importance, and should not be lost sight of in any surgical procedure, or in the after-treatment.

Owing to the dangers attending surgical operations of this variety, even eminent surgeons have objected to them, and advise non-interference; but such advice is not likely to be followed at the present time, when so much is being accomplished by antiseptic treatment. The propriety of surgical interference, or the necessity for it, can only be determined in each individual case. Where life or health is threatened, surgical procedure seems to be demanded.

There is a peculiar feature in the history of complete or incomplete atresias of the generative passages, which is interesting, and has a bearing on treatment in cases where there is an accumulation of menstrual blood. This feature is alluded to by Barnes.*

* Diseases of Women. By Robert Barnes, M.D., London, Lecturer on Obstetrics, etc. Phila. 1878; page 206.

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When there is stenosis or atresia of long continuance, the genital canal "undergoes retrograde dilatation above the seat of the stricture. This is the almost inevitable consequence of the futile attempts of the muscular coat to expel the retained contents." This effect is seen in the most marked form in cases of imperforate hymen; the vagina, being the most distensible part of the canal, dilates first, forming a large pouch; then the cervix uteri is distended; then the cavity of the body of the uterus, and lastly the Fallopian tubes. This dilatation, conservative in its effects by accommodating the contents which cannot be evacuated, has its limits. When these are reached, the danger of rupture or perforation at the weakest point is great. Before such an occurrence takes place, the imprisoned fluid, by reason of the constant pressure to which it is being subjected, may be forced to ooze through the walls of the uterus in drops, causing septicemia or peritonitis. As analagous to this condition, the opinion is expressed by Barnes that in a similar manner some cases of pelvic peritonitis are produced. More commonly, in consequence of retained menstrual blood, equally grave results of a different kind may follow. The uterus, exerting great pressure upon the fluid, may force it into and through the Fallopian tubes, whence it escapes at their fimbriated extremities, or, it may be, forced through some weakened part, producing a rupture. Either of these occurrences are rendered easier on account of the continued dilatation of the tubes. What has just been stated has an important bearing upon operations for imperforate hymen. Again, the sudden evacuation of a large quantity of menstrual blood by a free incision may cause such sudden collapse of the uterine walls as to excite contraction of that organ, and, in consequence, some of the blood, by a regurgitating process, is forced through the entire length of the tubes into the peritoneal cavity, or else through the substance of the tubes themselves, rupture taking place at the weakest spot of the distended walls. It is thought by some that the more sudden the evacuation the more liable such occurrence. It is believed by many that the sudden admission of atmospheric air into the vagina is the cause of the uterine contraction, rather than the collapse of that viscus. A case is related by Béclard, in which the uterus burst, discharging into

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the bladder. Other writers have mentioned instances of rupture of the hymen. Puech refers to a case of spontaneous cure of an imperforate hymen, by reason of ulceration of the obstructing membrane. Another condition demanding surgical interference in cases of atresia is where the menstrual fluid, being retained there, is liability of blood-poisoning from absorption into the system of the changed blood. The patient in my own list, numbered 5, showed this condition in a pronounced manner.

It might be interesting to some of my auditors to hear the reports of peculiar cases and the opinions of distinguished authorities, on the treatment of the class of abnormalities under consideration, but it seems needless to me in this assembly of practicing physicians to relate what many are familiar with and what all can have access to in most of the late text books on diseases of women.

Without further discussion of these points, or the demands for surgical interference, the modes of operating and the treatment requisite to render operations successful will be considered.

The evacuation of retained menstrual blood can be accomplished with greater safety by means of an aspirator than by any other method. In cases of imperforate hymen the membrane should not be incised until it is first ascertained by rectal examination whether menstrual blood is present, and if found in considerable quantity, the fluid should be aspirated, and as soon as it is believed that all is thus evacuated, then a free opening should be made into the vagina, first cutting and then tearing; the vagina, and if possible, the uterus should be washed out with warm water until it runs out without discoloration. By so doing there is but little danger of regurgitation of the fluid and the risks of septicæmia are lessened. If the quantity is considerable, then the fluid should not all be aspirated at one time but at different times, for, if the contents are nearly all drawn away at once, the ensuing collapse excites the uterus to contractions which may cause the regurgitation or rupture previously referred to. Small openings should never be made for the purpose of gradual drainage, as they afford ingress to air, causing subsequent decomposition.

Bermutz, who lost four patients from free incisions through the hymen, selected as the time for operating, the second week after

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menstruation, as the time when the organs are less liable to be disturbed.

In cases of children, some authorities have advised no interference until the age of puberty, but I am of the opinion that an imperforate hymen or vagina, the only form of atresia likely to be discovered in childhood, should be operated on and kept open by tents. In children incisions should be avoided if possible and the canal opened by laceration or tearing.

The means of opening the genital canal, whether the obstruction be in the vagina or in the uterus, are tearing or laceration, the scalpel, the scissors and the trocar. The aspirator can scarcely be enumerated as a means of opening an imperforate or occluded vagina or uterus, as its use is rather for evacuating fluid therein contained.

In some instances a combination of tearing and cutting serves the best purpose. As a rule I would advocate giving preference to the tearing process in congenital atresias, but it will be found impracticable in the accidental varieties. Emmet prefers scissors, as is well known to all familiar with his practice. My own choice for the vagina is scissors and for the uterus either very delicate scissors or a tenotomy knife. The tearing open of imperforate canals with the finger is usually the better as well as easier plan, but where union has occurred in consequence of inflammation or injury, tearing can be done only to a limited extent, for the reason that dense structures like cicatricial tissue will not readily tear and if the requisite force is applied one is liable to lacerate around rather than through it; the character of the obstruction should always determine the mode of overcoming it. The trocar I would avoid as much as possible, as about the only case where I deem it admissible is in uterine atresia. To those who practice one of the operations of Amussat the trocar is indispensible, but that operation, which consists of plunging the trocar through the rectum into the vagina for the purpose of evacuating the menstrual blood is, as a rule, unwarrantable. This may seem strong language, since for years this has been successfully practiced, but I firmly believe that the case must possess most unusual abnormality if menstrual blood cannot be abstracted along the route of the vagina, its natural and only proper outlet. The trocar has

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proved serviceable in atresia of the neck of the uterus, serving in some instances indeed a much better purpose for opening the canal than either the knife or the scissors. Syme* objects to the trocar and is in favor of the knife, which he uses with great freedom.

It is important, after the vagina or uterus is made perforate by operation, that some measures be taken to keep it so by means of tents, plugs or dilators. One case came under my observation where a physician had plunged a trocar through an imperforate hymen, a large quantity of restrained menstrual blood escaped, but the incision closed up and a subsequent operation became necessary.

It has been a matter of considerable discussion by many surgeons in cases of complete vaginal atresia how much should be done in a single operation. Amussat† in 1832, in operating in a case of congenital atresia, cut through the skin, and then from fear of entering either the rectum or bladder with his knife tore an opening for some distance with his finger and packed the orifice with a sponge; after three days he repeated the process, and subsequently again repeated it; on the tenth day he reached the tumor, which he emptied with a trocar. The patient suffered from severe inflammation of the Fallopian tubes, but after four operations with the trocar the canal remained sufficiently open. Emmet‡ advocates an opposite course from that pursued by Amussat, and cites cases where he accomplished at a single operation all that was accomplished by Amussat in ten days. In my own case, number 16, I unwisely followed the plan of Amussat for the same reason, but I have never ceased to regret that I did not attempt to reach the uterus at the first operation, as the peculiar circumstances in which the patient was placed was the means of making it also the last and only one. I am convinced that the vagina should be made perforate with as few operations as possible—and whenever it is practicable it should be accomplished in one operation, exception always being made in such cases as have been alluded to, where there is a large accumulation of menstrual

* Taylor, Op. citat.
† Gaz. Med. de Paris, 1835.
‡ Principles and Practice of Gynecology, by Thomas Addis Emmet, 2d ed. 1880.

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fluid, and there is reason for thinking that considerable dilatation of the uterus or tubes exists. In a very recently published discussion on the method of removal of retained menstrual fluid, by members of the Obstetrical Society of N. Y.* a variety of opinions were expressed, some advocating rapid removal and others a slow process. Emmet expressed himself strongly in favor of a rapid evacuation, and as to the most unfavorable cases he believes them to be those of congenital absence of the vagina with a distended uterus. Dr. Lusk said that the danger was greatest from inflammation, if air entered a flabby vagina and uterus; while firm contraction removed danger. Dr. Mundé said the chief source of danger was from sepsis and regurgitation through the Fallopian tubes. Dr. Skene believed that the chief source of danger is inflammation; that death more frequently is caused by it than by septicemia; he would give patients to understand that the operation is a dangerous one, and in his opinion inflammation is the danger most to be feared.

Another undecided question is, whether it is better to operate before or after menstruation or the *molimen*. The history of my own case, number 16, leads me to give most pronounced favor to operations before the period. Where there is no accumulation, and the operation is chiefly for the purpose of relieving a deformity, then the time of greatest calm of the generative organs should be selected, which is ten or twelve days after the menstrual date. I do not believe it is wise to adopt a strict rule of practice however in regard to this matter. The pathological condition, as well as the exigency of the case, must be considered, thus in truth making each case a rule for itself. The same is perhaps true as regards operations for atresia in pregnancy, yet my own opinion, based solely on the experience of others, is that it is better to wait until labor has begun rather than to make any operation prior to the establishment of the labor pains.

The question has been asked, "When should uterine injections be resorted to?" It is claimed that their immediate use causes inflammation, but it is quite probable that such a condition has resulted rather from the manner of their use; even the forcible

* Amer. Journal of Obstetrics, July, 1880, pg. 609.

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injection has been used, while some have employed astringent and medicated injections. The use of injections is of great importance for the prevention of septicemia. The manner in which they are used is of equal importance if it is the uterus that is to be washed out. It is not positively necessary that haste should be exercised in employing them, as no great amount of decomposition and certainly no blood-poisoning can occur in from two to six hours; but, as a rule quite safe to follow, the passage should be washed as soon as practicable after the atresia is overcome. I have in a former paper* expressed my own views and the opinions of recognized authorities on the propriety, the dangers and the manner of using intra-uterine injections. The same general rules are to be followed in washing out the uterus after operating for atresia as in any other condition or disorder. That no harm may follow their use, certain requisites are important, as follows: (*a.*) A free outlet should be insured for the injected fluid. (*b.*) Air must not be admitted with the injected fluid. (*c.*) Cold astringent or irritating injections should not be made use of under any circumstances within the uterus, as they are apt to excite contraction, in consequence of which the fluid is liable to be forced through the tubes, or cause rupture at the weakest point. (*d.*) Forcible injections are to be avoided, as the injected fluid may be forced through the tubes, or cause rupture at some point already weakened by dilatation.

In looking over all attainable literature on the subject of this paper, I have been impressed with the meagerness of it, and with the apparently unsettled views of the majority of writers in regard to treatment. There are very few exhaustive essays on the subject, the literature consisting chiefly of reports of cases, with fragments here and there in text-books and the medical periodicals, the most elaborate essay being the one of Puech before referred to. It is possible that one cause of the divided opinions regarding treatment may be due to the fact that, whatever the treatment adopted, cases prove fatal, and with the necessarily limited number coming within the observation of any one individual, each thinks of his serious or fatal cases that, if they had

* The Treatment of Puerperal Septicemia, etc. By Edward W. Jenks, M.D. Trans. Am. Gyn. Society, 1879.

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been subjected to a different course of treatment than the one pursued, they might have been less serious, or even recovered.

In concluding this paper, I will, on the subject of treatment, only attempt to give a summary. From the literature of the subject and the reports of cases, to which may be added my own observation and experience, I am led to the adoption of the following conclusions:

I. As fatal results have followed operations for the simplest varieties of atresia, the surgeon should apprize the patient, or her friends, of every possible danger prior to operating.

II. In case of menstrual retention from vulvar, vaginal or uterine atresia the fluid should not be evacuated via the rectum with a trocar, but in the route pursued by the vagina.

III. When there is reason for believing that there is a large quantity of menstrual fluid distending the uterus or Fallopian tubes, the safest mode of evacuating it is by means of an aspirator prior to any surgical procedure for the cure of an atresia.

IV. The evacuation of menstrual fluid should never be through a small orifice (with the exception of aspiration), but through a free opening, after which the vagina and uterus should be thoroughly washed out with warm water, as the best means of preventing or curing septicemia or inflammation.

V. Septicemia, inflammation and rupture of the Fallopian tubes are the chief disasters attending atresia, or following operations for its cure.

VI. Congenital atresia of the vagina can be best relieved by tearing with the finger, as the rudimentary canal already existing serves a similar purpose to the surgeon that an instrumental director does in cutting operations; but the accidental forms require cutting, for which operation scissors are preferable to the knife; in some cases both cutting and tearing are are requisite.

VII. There is reason for believing that when there is an accumulation of menstrual fluid within the vagina and uterus, particularly within the latter, that the best time to operate is immediately prior to the menstrual date, as the patency of the newly opened canal is thus better insured.

VIII. Notwithstanding the dangers attending these operations there is good reason for believing that by care and caution,

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and with a proper use of antiseptics, favorable results may be expected from operations for either congenital or accidental atresias.

ARTICLE II.

LEUCASMUS OR VITILIGO. A Clinical Lecture delivered at the Central Free Dispensary. By CHAS. W. EARLE, M.D., Professor of Diseases of Children, Woman's Medical College. Reported by Dr. Julia N. Moss.

History.—During the summer of 1879, among the children who presented themselves at the Central Dispensary was the following, afflicted with a disease which in the records of dermatology seems to be somewhat rare.

Maggie Conlan, aged twelve, born in Chicago, of Irish parentage, resides at 394 Hubbard street, the sanitary condition of the neighborhood being good.

The family history is unmarked. Her maternal grandfather died of consumption, and her father is subject to headache, and pain in side, has a few gray hairs and is thirty-seven years of age.

Patient's health prior to four years ago was good. At that time she had occasional, but not severe headaches; this continued for three years, when headaches appeared daily, about 11 a. m., continuing an hour and returned in the afternoon. During this period she had also complained of irregular pains in the chest. In the winter, 1878–79, she suffered from irregular chills, twice daily, which continued about ten months, appetite poor, bowels constipated. Her headaches, which previously had been intermittent, became constant, and her hair began to turn gray, and the skin of the forehead became very white. White spots appeared upon the neck, and one upon the body, the skin of the face elsewhere became very yellow, some yellow spots also appeared upon the neck and chest.

When first seen in the early summer of 1879, she presented the usual development of that age, well nourished, but slightly anæmic, but complained of great weakness, and had had a hacking cough for some months, voice very hoarse; examination

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revealed a follicular pharyngitis, but lung sounds were normal, and circulation good.

There were various tender spots in the left axillary region, also in the right infra-clavicular, and in the posterior region of the chest, to the right of the spine, but no headache for past three weeks. An irregular line ran around the forehead, above which the skin was intensely pearly white; there were also two white spots each side of the neck, and one over the lower portion of sternum, skin of face and body yellowish, also two small yellow patches upon the forehead. Hair was fully one-half gray, and growing very low upon forehead.

Patient was put upon a combination of iron, quinine and strychnine.

August 10.—Grayness of hair is disappearing, also the marked yellow and pearly white tints of the skin are becoming obliterated.

September 8.—Appetite better, but dizzy in the morning, headache has returned, bowels regular, but pain in abdomen, hoarseness and cough continue.

Abdominal pain continuing through the month with an attack of diarrhœa (possibly consequent upon a cold), the tonic treatment was discontinued, and a prescription given, containing bismuth, pepsin and acid muriatic dil., which entirely relieved abdominal symptoms.

In the early part of October the patient had intermittent attacks of severe pain in right chest, which were soon relieved by cinchona; continued to improve until December 12th, when visits were discontinued.

May, 1880, patient again presents herself at dispensary, headache has returned, peculiar discoloration of the skin intensified, grayness of hair also increasing, bowels regular, appetite medium; child has become exceedingly irritable in disposition, and very hard to control, giving parents much anxiety and trouble.

The history having been read, the lecturer stated that he had taken the trouble to visit the child and to have a conversation with her mother.

A re-examination of the body was made, and leucasmic spots were found at the ensiform cartilage and investing the left nipple.

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Brown spots were also found in different parts of the chest, but none extending below a point corresponding with a line drawn around the body at the umbilicus.

With regard to the irritability of the child, as mentioned in the history, the mother remarked to the Professor that she had often thought, "if the good Lord would take the child away (glory be to His name), she (the mother) would not be *displazed.*"

Patients with this disease do not come to our notice in any considerable number. Prof. Maynard, who has had charge of this class of diseases in this institution for over nine years, and has treated during that time 3000 consecutive skin diseases, has seen three cases. Erastus Wilson speaks of only twelve cases. Duhring says the affection is rare.

There is some reason to suppose that in other countries, India, for instance, it is more common. Tilbury Fox remarks, in regard to its frequency in that country, that the well-to-do natives suffer from it. Nearly all dermatologists, as far as I have had access to their works, agree that it is a disease of pigmentation, accompanied with more or less debility of the nervous powers.

The *synonyms* are numerous, and vary as authorities base their classification upon the presumed *cause* of the disease or the *visual appearance* of the morbid integument.

From among these many names I will only mention leucasmus, achroma, alphosis, albinismus, acquired piebald skin and vitiligo.

It is a malady confined to the retemucosum, and may be *general* or *partial.* If the disease were general, it would usually be congenital, and there would be uniformly an absence of pigment over the whole surface of the body. To this class of people the name of Albino has been applied, concerning whom I do not purpose at this time to make any remarks. Most of you, undoubtedly, have seen these individuals, as they are exhibited throughout the country.

Coming now to speak more particularly of the acquired achromic condition or *partial* leucasmus, we find that it is probably most common among the negro race, occasionally, however, being found among the whites, and usually associated with some form of diseased innervation and nutrition.

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In the little patient now before us we find a long history of malaria, neuralgia and anæmia. Indeed it was not until she had suffered with irregular chills and tender spots and attacks of neuralgia for more than two years that she began to notice this peculiarity in her integument.

It will be noticed that the white spots, of which there are several, terminate abruptly, and that the surrounding skin, in some instances at least, is of a darker color than usual—that is we find an absence of pigment in the parts afflicted with leucasmus and an increase of this same formation in the contiguous integument.

Referring almost inadvertently to a *deposition* of pigment in the derma, when the case before us is an absence of the same I may be allowed to speak briefly of the different chromatogenous diseases we find manifesting themselves in the variations of color of the skin.

We find four varieties and they occur, as regards frequency in about the order which I will give them:

Melanoderma or melasma;

Xanthoderma;

Leucoderma;

Cyanoderma.

The first is a deposit of, or change to black pigment and the best types, of course, are found in the colored race. We have however at least one pathological condition in which dark deposits take place; that is Addison's disease, and there is a physiological process during the course of which a partial or local melasma is frequently seen. I refer to the change in color which takes place around the nipple during pregnancy. The best illustration of xanthoma or yellow discoloration is the round flat patch commonly called a freckle, to which, according to some authorities, should be added chloasma or pityriasis versicolor, familiarly known among the people as liver spots. Leucoderma, or white spots, is the subject of this lecture, and cyanoderma or blue discoloration of the skin is so rare that many dermatologists believe it a myth.

In regard to this classification it is proper for me to say that the writers of our standard books on skin diseases differ greatly. Some class all under diseases of the pigment system. Others

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speak of the xanthoderma as a *new growth* and Vitiligo under the head of *atrophies*. Concerning this difference of authors I can say nothing at this time, but will only attempt to present an epitome for your guidance as general practitioners.

As to the *causes* of leucasmus we can say but little. Deficient innervation has certainly to do with it, as also has depressing diseases, particularly those of malarial origin, when long continued. There is also considerable testimony which goes to show that exposure to the sun's rays, especially in hot climates, may be a producing cause.

The *diagnosis* is not difficult. You will find white spots upon a skin which is not at all changed in structure. Where leucodermic patches take place on the scalp, you frequently find the hair white, as in the case before us. In the leprous affections we have whiteness of the skin, but in addition such a *thickening* and *infiltration*, associated with so many other symptoms of a severe order, that you will hardly have trouble in differentiating from the local disease under consideration.

Treatment.—This patient has always improved when placed on tonics. Indeed, after the physician is assured that all the functions of the body are well and properly performed, tonics, perhaps of the alterative varieties, are the medicines indicated. The treatment at best will not be particularly successful. You should, however, pay particular attention to digestion, secretion and excretion, and then give the ferruginous preparations with quinine. The ordinary tr. ferri chloridi with quinine is excellent, or the mineral acids with quinine. Arsenic with iron and some of the varieties of cinchona will be indicated at times. Strychnia will be valuable in some cases, as also will malt and cod liver oil, and syrup of the iodide of iron.

In the treatment of this disease, or any other in which you desire to prescribe quinia and syrup ferri iod., you will find the following combination an excellent one:

℞ Quiniæ sulph..... 1.0
Syrupi ferri iodidi..... 8.0
Acidi citrici 0.5
Glycerinæ..... 8.0
Aq. anisi q. s. ad..... 50.0
M. Give a teaspoonful four times a day.

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While you are improving the nutrition, and imparting tone and vigor to lowered innervation, do not neglect the application of some good stimulus to the skin. Apply friction, give baths, and use some of the soaps usually recommended in skin diseases, such as the carbolic acid or tar varieties.

We will give the patient before us the advantage of the treatment suggested, and try at some future time to again present her to the class, in order that you may note the result.

ARTICLE III.

A CASE OF FRACTURE OF THE CERVICAL SPINE. By OSCAR J. COSKERY, M.D., Prof. Surgery, College of Physicians and Surgeons, Baltimore, Md.

In the early part of June, 1880, there was brought into the City Hospital, Baltimore, Martin B., aged 19, a powerfully made Swede, who, in tarring the stay rope, fell to the deck of the vessel from a height of thirty-five feet, striking upon his head and shoulders. He was immediately gone to by his mates and was found completely insensible. The following was his condition at time of admission into hospital: Great swelling and ecchymosis of right upper eyelid, sub-conjunctival ecchymosis of right eyeball, *supra meridian*, a puffy swelling over right temporal region, a compound fracture of left thigh and several minor bruises and scratches upon the surface generally. The heat of skin was found to be very great, the thermometer indicating 105° and 106° in the axilla. The pulse was 110, respirations 15 and very slightly stertorous, and there was twitching of the depressor muscles of the lower jaw. The penis was markedly erected, standing at right angles to the body, and if pressed downwards, at once resuming the erect state when relieved from pressure. It was also retracted and measured one inch in length. The patient became more and more comatose, and died about eight hours after receiving the injury. The diagnosis made was: fracture of the anterior fossa of the base of the skull, with fracture of the spine in the lower cervical region.

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On post-mortem examination there was found a large extravasation of blood in the substance of the right temporal muscle, a considerable effusion of blood over the right hemisphere of the brain (the source of which could not be discovered), but *no* fracture of the base as had been thought.

Besides this, there was fracture of the transverse process of the seventh cervical vertebra, allowing of some compression of the cord.

The only points of interest in this case are the length of time the patient lived after so severe an injury, the small length of the penis in the marked state of priapismus, the great heat of the skin, and the fact that the penis elongated after death to nearly two inches. It also illustrated the fact insisted upon by Hutchinson that great heat of skin with priapismus is a diagnostic sign of fracture of the lower portion of the cervical spine. I should mention that on account of the evidently dying state of the man, and the difficulty of turning him over, due to the fracture of the thigh, no examination was made of his back during life.

ARTICLE IV.

HYOSCYAMIA. By DANIEL R. BROWER, M.D.

This alkaloid of Hyoscyamus, which can now readily be obtained in a state of purity, is a valuable addition, made recently, to the armamentarium of the physician, containing, as it does, in small and agreeable compass the hypnotic, anodyne and anti-spasmodic properties of the bulky and disagreeable preparations of hyoscyamus. The pure alkaloid occurs in needle-shaped crystals, and is odorless. The taste is bitter. It is quite insoluble in cold water; easily soluble in hot water and alcohol, ether and chloroform. It has, in my experience, great value in the treatment of mania, delirium tremens and paralysis agitans. In the treatment of mania it is particularly useful, inasmuch as the dose is small and its taste can readily be concealed with coffee, tea, or milk, and therefore is readily administered to those patients who positively refuse all ordinary medication.

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I have given the drug recently in three cases of puerperal mania, with the effect of promptly modifying the mentality, to such an extent as to make possible the use of ordinary treatment. The preparation used was Merck's crystalized alkaloid, and the dose found effective much smaller than that recommended by recent writers; the one-thirtieth of a grain has been the ordinary dose employed. This dose has invariably produced mydriasis, and dryness of mouth and throat.

In the case of Mrs. B., suffering with puerperal mania, who was persistently refusing food and medicine, and at times quite violent in manner, the drug produced a marked change in mental condition. The violence gave place to calmness, and the desire for food returned. It did not, however, produce sleep, but advantage was taken of the pacification to administer by rectum a full dose (40 grains) of chloral hydrate, which was promptly followed by a long sleep and marked improvement in mentality. In about twenty-four hours after this there was evidence of the approach of another paroxysm of mania, which was arrested by the same method. The drug was then continued for several days, in doses just sufficient to produce a mild effect upon the pupil, the chloral injection given at bed time, and an abundance of milk and other nutritious food administered. The patient made a good recovery.

CASE II.—Mrs. N., a case of puerperal mania, complicated with metro-peritonitis. She had for twenty-four hours refused all food and medicine, and was found to be in a state of wild excitement. She was ordered hyoscyamia in one-thirtieth grain doses every four hours, and shortly after the third dose was administered she was found to be perfectly passive in mind and body, and took food without difficulty. She then received a forty-grain rectal injection of chloral, with forty minims of tinctura opii deodorata. This was followed by a profound sleep, from which she awoke with improvement in mental condition. The hyoscyamia was continued at longer intervals and tinctura opii deodorata used by rectal injection in sufficient doses to subdue the pain of the pelvic inflammation. The mania subsided, but death ensued in the fifth week after parturition.

CASE III.—Mrs. P., a mild case of puerperal mania without

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any pelvic complication, but like the other, refusing food and medicine. Hyoscyamia (1-30 grain) was administered in ice-water, and repeated in two hours in the same vehicle. In one hour after second dose muscular relaxation and pacification of mind were manifest, and very soon a profound sleep followed. The patient was continued under the influence of the drug for two weeks with a gradual subsidence of mental derangement and a restoration of general health.

My experience with the drug in delirium tremens is confined to a single case, in which there was marked cardiac irregularity and dyspnœa, so much so that I was afraid to administer chloral or the bromides. I gave this patient hyoscyamia in combination with digitalis in coffee, in the same dose above indicated, and closely watched the effect on the pulse. From a study of the physiological action of the mydriatic, I felt confidence in it as a respiratory and cardiac stimulant. The first dose had no effect upon the mental condition, but did improve the respiration and circulation. A second dose was administered in one hour, and was shortly followed by a subsidence of the excessive mental and muscular activity, sleep followed and a continuance of the treatment, giving just enough hyoscyamia to show its effects in a positive manner upon pupil, with liberal use of milk, beef tea and capsicum, resulted in restoration of patient, the result being in every way more favorable than opium, chloral or the bromides have ever produced in my experience.

In one case of paralysis agitans, the drug has served to diminish the tremor, and seemingly to arrest the progress of the disease. This patient is now taking about one-fortieth of a grain daily. This amount produced the characteristic pasty condition of the mouth, dilatation of the pupil and paralysis of accommodation. The one-twenty-fourth of a grain produced in this patient severe pains and spasmodic movements of the lower extremities, followed by complete muscular relaxation, and the effect on the eyes and the locomotion continued for forty-eight hours. The tremor is controlled by the drug very markedly, but there has been no permanent improvement. When he omits the drug for two or three days the disease shows itself with all its former intensity. The relief the remedy gives to the tremor without in any way disturbing the general system, except so far as the ocular phe-

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nomena are concerned, renders the drug exceedingly acceptable to him.

I have also found the drug of benefit in cholera, but, so far, am unable to say how far its influence is curative. It has been given with tonics, with stimulants, and with anti-rheumatics, but if the theory be correct that this disease is usually the result of congestive hyperæmia of the motor centers, we can see how it must produce good results.

As I said in the beginning, the great value of the drug consists in its furnishing, in a small compass, a powerful agent for overcoming the cerebral irritability and hyperæmia of mania, and is an agent that can, usually, be administered without the knowledge of the patient. Moreover, my experience with the drug, that is with Merck's crystalized alkaloid, would lead me to apprehend fatal results from the administration of one-half or one-quarter grain doses.

ARTICLE V.

LABORATORY OF THE HEALTH DEPARTMENT,

CHICAGO, August 3, 1880.

OSCAR C. DEWOLF, A. M., M. D.,

Commissioner of Health,

DEAR SIR:—I have made a very careful and elaborate chemical examination of twenty-seven samples of baking powders received from you through the hands of Mr. Merki, your clerk, and have the honor to report as follows:

Many manufacturers have expended large sums of money and a great deal of time, attention, etc., to make up what they term a "good formula." It would not be fair to them, nor do I think it the place of this department to publish a complete analysis of of each and every baking powder. What is necessary is simply to point out, are there any, and if so, what materials contained therein deleterious to the health of the community?

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I here place a table of figures and shall explain them below:

No.	Name.	Soluble Ash.	Insoluble Ash.	Total Ash.	
1.	Silver	22.00	0.02	22.02	Ca.
2.	Perfection	39.00	0.06	39.06	1st.
3.	American	24.06	0.10	24.16	Ca.
4.	Chartres	18.52	0.02	18.54	Al.
5.	Standard, Thompson & Taylor	29.44	0.30	29.74	1st.
6.	Gillett's Yeast	30.68	0.12	30.80	Ca.
7.	Gillett's Cream	31.74	0.08	31.82	1st.
8.	Dr. Price's Cream	36.18	0.12	36.30	1st.
9.	Loyal	18.56	1.04	19.60	1st.
10.	Anchor	30.78	1.28	32.06	Al.
11.	Standard, St. Bernard Mills	31.52	0.48	32.00	Ca.
12.	Sterling	29.60	0.20	29.80	1st.
13.	Sherman's Pure	33.84	0.08	33.92	1st.
14.	Empress	22.70	0.60	23.30	Al.
15.	Union Mills	40.54	0.16	40.70	1st.
16.	Cottage	35.86	0.08	35.94	1st.
17.	Royal	36.10	0.12	36.22	1st.
18.	Reliable	27.00	0.60	27.60	Al.
19.	Chapman's	18.92	0.24	19.16	Al.
20.	Giant	20.06	0.34	20.40	Al.
21.	Manuf'd in bulk, by Union Mills	22.62	0.66	23.28	Al.
22.	Meeches'	22.08	0.28	22.36	Ca.
23.	Success	26.28	0.12	26.40	Al.
24.	Golden Harp	19.20	1.70	20.90	1st.
25.	Star Chemical Works	35.02	2.32	37.34	1st.
26.	Peerless	19.96	2.40	22.36	1st.
27.	Manuf'd in bulk, by Star Chemical Works	26.92	0.24	27.16	Al.

A known and weighed quantity of baking powder was incinerated in a silver crucible until only a gray residue was left; this is the total ash. It was carefully removed to a glass vessel and acted upon by by hydrochloric acid and distilled water at the boiling point; what dissolved in that menstruum has been called soluble ash; that which did not, insoluble ash. From the above table it will be noticed that the insoluble ash is comparatively small excepting in Nos. 9, 10, 24, 25 and 26. It may fairly be assumed that that amount of the baking powder will not be dissolved by the juices of the stomach and may therefore be quoted as objectionable in these samples.

There are really four kinds of baking powder in the market.

1st. One composed of cream of tartar and bicarbonate of soda, or, what is essentially the same, of cream of tartar, bicarbonate of soda with some wheat or rice starch. The starch is added in order to keep the other ingredients apart and prevent their reacting upon one another until required to do so. The result of kneading such powders with flour and water is the production

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of carbonic acid gas and a nice light porous bread. In baking in the oven a second portion of carbonic acid gas may be given off from the decomposition of the tartaric acid of the cream of tartar. Those marked first (1st) on the above table belong to this class.

2nd. One manufactured from meal and pressed yeast dried together. This would of necessity make an excellent baking powder were it not that it does not keep well for any length of time especially in warm weather. None of those samples I have received from you have been made of such materials.

3d. Another class is made from the acid phosphate of calcium and bicarbonate of soda with flour or some kind of starch. It is well known that the central portion of the kernel of all cereals contains almost pure starch; that is to say that it has almost no nitrogenous matter, moisture nor ash with it. The external part, that immediately under the husk—is, however, rich in nitrogen and phosphates. The former (nitrogen) is the characteristic ingredient of the gluten which imparts the yellow to brown tint of flour. That color some consider objectionable. The phosphates are the bone producing constituents of the flour and this class of baking powders proposes to rectify the insalubrity of the pure white or highest grade flours. It is necessary to keep in mind that no one can live on a purely starch diet alone but that in order to form all the various tissues of the body a variety of substances is required. This is very clearly demonstrated by the fact that unbolted wheat is very much more nutritious than the finest white flour. Under the next class I shall again refer to this. The baking powders of this—the third-class serve the purposes for which they are intended remarkably well. The acid calcic phosphate itself is soluble in water; any changes which may occur to it in the process of firing and kneading will not render it insoluble in the gastric juice; it will therefore in time fulfill all that is required of it.*

4th. The next class of baking powders is that in which the ingredients are alum, and bicarbonate of soda, or alum, bicarbonate of soda and starch or flour of some kind. The addition of

* Those marked Ca. on the table belong to the 3rd-class.

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starch in this case is for the same reason as in the others and cannot be objected to unless where an excessive amount is used. With regard to alum baking powders there seems to be a great variety of opinion. Why there should be I cannot see. The addition of alum to flour in the presence of water will render the albuminous (flesh forming) constituents thereof insoluble. Does not that as well deteriorate the value of the flour as cause the stomach and intestines an amount of labor to turn over and get rid of useless material? Yet you will say, "Do not these albuminous substances cause the yellow tint of the flour and bread?" Certainly they do, as I have mentioned under 3rd class, yet their usefulness vastly overbalances their objectionableness in color. I cannot do better than incorporate here the opinion of Dr. Hassall of London on the use of alum in bread as I entirely concur in all he says on this subject, "The use of *alum* in bread is *particularly injurious*. It is true that it causes the bread to be whiter than it would be otherwise; indeed whiter than it was ever intended to be by nature; but it imparts to bread several other properties: thus it hardens the nutritious constituent of the bread, the gluten, and so, on the authority of the great chemist, Liebig, renders the bread more indigestible; it enables the baker to adulturate his bread with greater quantities of rice and potatoes than he could otherwise employ; and lastly, by the use of alum he is able to pass off an inferior, and even a damaged flour, for one of superior quality. Is it worth while to injure the properties of the bread by using alum for the sake of obtaining an unnaturally white loaf? The public then, in judging of the quality of the bread by its color—by its whiteness—commits a most serious mistake; there is little or no connection between color and quality; in fact, very generally, the whitest breads are the most adulturated. The public, therefore, should lose no time in correcting its judgment on this point.

The outer part of the grain of wheat has been proven by analysis to be much richer in nourishing principles, in gluten and in oily matter especially, than the central and more floury parts of the grain. Now, in preparing the finer descriptions of flour, the utmost pains are taken to separate this highly nutritious exterior portion of the grain, and thus, although the flour so

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obtained is very fine and white—very suitable for making a white loaf, that fallacious test of quality—it is yet not nearly so nutritious as whole meal flour, or even the less finely dressed qualities of wheat flour. The consumer, now better instructed, is in a position to judge of how much he sacrifices for the mere sake of an arbritary and fallacious standard of quality, namely whiteness. The difference in nourishing properties between whole meal flour and finely dressed flour amounts in many cases to fully one-third.

Further, alum is very apt to disorder the stomach, and to occasion acidity and dyspepsia. The manner in which it does so has not been clearly ascertained. The powerful effects of alum as an astringent when administered as a medicine, are well known; but when added to flour or bread, it becomes decomposed, sulphate of potash, an aperient salt being formed.

Liebig considers that part of the beneficial action of wheat flour on the system is due to the soluble phosphates which it contains in such large quantities, and he states that when alum is added to bread these are decomposed, the phosphoric acid of the phesphates uniting with the alumina of the alum, and that thus an insoluble phosphate of alumina is formed, and the beneficial action of the phosphates consequently lost to the system. So satisfied is Liebig that this is the case, that he has recommended the employment of small quantities of lime water for the purpose of whitening bread made from musty or damaged flour. Enough has now been adduced to show that it is a very dangerous thing to tamper with articles of daily food and of large consumption, like flour and bread, by the addition of chemical substances of any kind."—*Hassall, food and its adulterations.*

I have carefully examined these samples for the presence of highly dangerous or poisonous metals and find them all to be perfectly free therefrom. The only objectionable metal to be found in them is alum as under class 4. These have been distinguished in the above table by the letters Al.

Upon the whole, I believe in the use of baking powders, as manufacturers on the large scale can more readily secure pure ingredients and proper proportions than can private individuals

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simply making a small quantity for their own use, or using the various ingredients seperately.

I should, on no account, however, permit the use of baking powders in which alum is one of the chief constituents.

Some of the above powders contain alum in small quantities but as a complete analysis has not been given it is not mentioned in the table. I have the honor to be, sir,

Yours very respectfully,

R. S. G. PATON,

Chemist of Health Department.

ARTICLE VI.

HOW TO FEED THE SICK. By E. INGALS, M. D., Chicago.

Dr. Tanner's experiment of long abstinence from food has attracted much attention, and, judging from the tone of the daily press, I think the public deem it an idle and foolish exhibition, but in its scientific aspect it has great interest, and will doubtless be repeated by others, and we shall have champion fasters as we now have champion rowers and athletes of the diamond field and prize ring. From this we may come to give due weight to the capacity which the body has to feed upon itself, and this will lessen the fear that patients will starve, and will help us to wait patiently for physiological repair of pathological changes. It is often remarked that truth is apt to be midway between extremes; yet public opinion goes from one extreme to another, and though we are conscious of our liability to this fault, we are generally ready to follow the pendulum through the entire arc of its motion. Within my memory the common practice was to interdict even a cup of cold water from the parched lips of a fever patient famishing with thirst. After the favorable termination of a protracted disease, when the attenuated body was clamoring for nutrition to restore what had been lost, food would be withheld to a degree that much prolonged the period of convalescence. Then came a change, and the direction of all in authority was that the sick should be "fed well." This was called "supporting treatment,"

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and as all knew that the body was sustained by nutrition, the practice strongly addressed itself to both public and professional favor. As a consequence patients who loathed even the thought of food and abhorred its sight, were compelled to take it in considerable quantities at frequent and stated intervals, as if it were a medicinal dose. Under such circumstances food is not well digested, but is partially decomposed in the alimentary canal, and some products of such decomposition may be taken up by the absorbents to poison the blood, and the debris while retained disturbs the whole system and is thrown off by the stomach and bowels with difficulty. In ordinary sickness it is best that the patient should order his own diet list, and for the physician to expunge from this what he judges may prove harmful. If the patient does not desire food it is generally better to leave him without it, and I can attest, from frequent observation, that this may be done with entire safety until a condition of extreme exhaustion has been reached, and even then, if the patient's desire for food does not return, stimulants are oftener indicated medicinally than nutrients. We should not forget that in sickness the digestive organs are enfeebled as well as the nervous and muscular, and their labors should be proportionately lightened. It is many years since I have seen a sick person injured from having taken too little food, while I have seen many who have suffered from taking too much.

WE hasten to correct an oversight that occurred in the last issue of the JOURNAL, in that we failed to give the credit of the admirable selection, "On the Summer Complaint of Infants," by J. Lewis Smith, M.D., to our valuable exchange, the *Medical News and Abstract.*

DR. J. N. HYDE of the editorial corps is absent, attending the meeting of the Dermatological society, and when he returns he will give our readers a full report of the meeting of that society.

DR. F. C. HOTZ, our old associate, has rendered us much assistance in making up this number of the JOURNAL.

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Original Translations.

ARTICLE VII.

SOME OBSERVATIONS ON THE CUTANEOUS ERUPTIONS ATTENDING THE USE OF CHLORAL. By Mr. MAYOR, Interne des hôpiteaux. A Communication to the Clinical Society of Paris.

[Translated for THE CHICAGO MEDICAL JOURNAL AND EXAMINER by H. D. VALIN, M.D., Chicago.]

In 1874 we had, for the first time, an opportunity to observe a patient under the care of Prof. Vulpian, who presented every day, at about the same hour, a peculiar eruption on various parts of his body. Our Professor did not hesitate to refer these symptoms to the use of the remedy which formed the basis of the treatment, that is, chloral. Paulin (Eugene) came under the care of Dr. Vulpian at La Pitié in 1873, suffering very probably from transverse myelitis, but presenting somewhat peculiar phenomena. They were true tetaniform fits, with opisthotonus, emprosthotonus and trismus. These attacks, to which he is yet subject at times, although in a better condition now, were extremely frequent in 1874. We then used to give him repeated doses of chloral until he was relieved. In this manner he would take as much as fourteen grains of chloral in the twenty-four hours, and, during the following days, we had often to renew the administration of that medicine in smaller doses, whenever the patient presented some convulsive shakes or some contractions. It is in these conditions that the eruptions of which we will speak appeared.

We find on record, on June 16, the following facts: From the beginning of May, patient noticed on his hands and face the appearance of small red spots, fading away after half an hour. From

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May 10th he had, every evening at about five, pricking of the face, the top of the hand, the wrists, the knees and the region of the sternum. Raspberry red spots would next appear on these parts, with fine elevations, the size of a millet-seed. These spots used to disappear at 8 p. m., but the next day one could see traces of them in the shape of a light erythema, accompanied with itching. During the eruption patient would feel oppressed, and the pulse was very rapid. On the evening of June 15, after patient had taken his fourth grain of chloral, he was taken with violent fits of coughing. His sputa was streaked with blood, and he vomited. The 16th, in the morning, same sputa. June 17th, two very marked eruptions, with cephalalgia, oppression and nausea, followed by sleep. At 5 p. m. new eruption, even considerable, consisting in some large spots on the knees, the legs and the feet, a patch on the right arm, and a few spots on the right side of the face. Simultaneously, considerable oppression and acceleration of the pulse (100).

Then we stopped the administration of chloral, notwithstanding which the eruptions, accompanied with dyspnœa, continued till June 20th. On the evening of that day there was some dyspnœa till 8, soon followed by the apparition of a single spot on the right wrist. June 21st, same hour, eruption more marked. During the last three weeks, daily epistaxis in small quantity.

About the middle of July he had to resume the chloral on account of a tetaniform attack; accordingly, the same cutaneous and respiratory symptoms appeared as early as the second day. An important thing to note is, that the man who had unilateral sweats confined to the left side of his body presented eruptive phenomena on both sides alike. The fact of a cutaneous eruption resulting from the use of chloral is nothing particularly new. According to Mr. Gubler* Wilkie Burmann has noticed the scarlatiniform rash, accompanied with inflammation of the mucous membranes. Schüle and Kirn also describe it. Other authors have observed purpura and uricaria, but in connection with signs of a high degree of poisoning. The orthopnœa has been noticed by several observes, among which Mr. Bordier.† More than one clinical observer could make similar observations.

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*Gubler. Nouveaux commentaires du codex.

†*Journal de Therapeutique*, 1877.

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But what strikes us is the course, almost always regular, of the symptoms in the cases which fell under our observation since. Here is a record of them:

CASE II. P. (Marie), aged 52, came under the care of Dr. Bernutz on account of a peculiar floating abdominal tumor, which a puncture showed to be probably an ovarian cyst. This puncture was made on March 17, and the patient, complaining of sleeplessness, she was administered two grains of chloral. On May 7, P. said that for the last three weeks she had had a rush of blood to her head, and palpitation with oppression every day after supper. These symptoms returned regularly till July 18, although they could not be accounted for by any morbid state of the heart or lungs, nor by the size of the cyst, which was punctured once more without changing in any degree the fits of oppression. But, as these became more intense and lasting, I observed one of them on July 18 at 5 p. m. The patient, who lay in the dorsal decubitus, was extremely oppressed, and her pulse was strong and frequent (100). The sounds of the heart were not disturbed. Patient was in such throes that she almost lost consciousness. Her eyes were half closed, and it was impossible to elicit an answer from her, even through signs; she did not seem to hear. Her respiration was labored, in the manner of some asthmatic patients during a fit of dyspnoea. Auscultating the chest revealed nothing abnormal, but a bright rosy mask covered all the face. On the arms, the forearms, the superior parts of the chest, the anterior parts of the knees, and the instep, bright rosy spots, irregular circular, slightly corrugated at the surface, not very elevated above the sound skin, but presenting sharp but somewhat sinuous edges appeared. The administration of chloral was immediately stopped.

The next day, July 19, the parts formerly occupied by the rash were the seat of a furfuraceous desquamation more marked in some places than in others.

July 23. This evening patient tried to eat a little, which she had not done, except in the morning, since her fit on the 18th.

As before, the meal brought the recurrence of the symptoms just described, which had not appeared for the last few days.

On August 2 patient left, without having been able to take

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any meal in the evening since July 23. Neither the eruption nor the accompanying troublesome symptoms returned.

Two points in this case seem to us important: first, the evident relation of the appearance of the rash with the time of gastric digestion, and the absence of auscultative disturbances during the fit of dyspnœa.

CASE III.—X., aged 27, suffering from tuberculosis of the bronchial ganglia, with compression of the trachea and bronchi, came under the care of Dr. Le Dentu at St. Antoine.

On Feb. 10 the patient, who had been taking daily two grams of chloral at a dose for ten days, complained of flushing of the face, with increase of her habitual dyspnœa; and moreover, she noticed yesterday for the first time red patches on the extensor side of her forearms. These patches were the seat of some sharp itching; yet, this morning, there was no desquamation on these points. Chloral was discontinued.

Feb. 11, almost no remains of the sensation of warmth. Patient left for the Vesinet.

CASE IV.—L. (Fanny), aged 44, had been operated on for the removal of an epithelioma of the left breast, Feb. 13, by Dr. Le Dentu. During the following fortnight she did not take any chloral. She said, nevertheless, that she had some flushing of the face after meals.

On the evening of March 11 she took one gram of chloral hydrate. As early as the next day, after breakfast, a few red points broke out on the back of her right hand. On that evening (March 12), she took two grams of chloral.

March 13. Flushing of the face, without any dyspnœa yet. Following the redness of the face, redness on the whole of the inferior half of the right forearm and the back of the hand. Two grams of chloral in the evening.

March 14. After dinner, which is her chief meal, patient had flushing, with redness of the face and redness of the forearms, more marked on the right, and no itching. But, as she felt a little itching on the feet, she noticed small red points on their dorsal aspect.

She was taken at the same time with a peculiar uneasiness and some dyspnœa, with the sensation of a bolus in her throat. She

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remained quiet, without uttering any word, nor did she lose consciousness, but she wept during half an hour. This woman had never shown any sign of hysteria. She took no chloral that night, and the next day there was redness of the face only; but as she resumed the remedy on the following day, in one to two gram doses every evening, the annoying symptoms returned, and on March 19 at noon, that is half an hour after meal, I could notice the following fact: her face was uniformly red, except the chin, above which the redness ended in a somewhat elevated border. There was no sharp edge elsewhere. On the back of the hand, skin glossy, but bright rose-colored. This hue, however, was not quite uniform. Three fingers'-breadth above the wrist the redness stopped in a sinuous border, not very distinct from the sound skin, for the hue faded as it receded from the wrist. The redness did not extend so high up on the left side, where it broke less rapidly. On the palm the redness was less intense, and did not ascend above the wrists. Slight rosy hue on the superior part of the chest, and very bright redness, without alteration of the surface of the skin, on both knees on the extensor side. The erythematous patches were wider than the hand in these places, and had no well-defined borders.

From the time the eruption appeared, there has been flushing of the face, with palpitation. The accelerated beats of the heart were so violent as to raise the shirt and the sheet. When I could examine the patient they were less violent, though very frequent (140). There was no alteration in the tone of the heart sounds, and no murmur. The dysponœa was hardly noticable. Chloral was discontinued.

March 20th.—Redness of face, slight palpitation. A few red spots on the top of the hand.

March 21st.—Some redness of face. No other symptom.

We will observe, respecting the patient, this fact alone: That the eruption constantly predominated on the right side; at least in regard to her arm. According to the patient, however, both her hands were a little clammy, and equally flabby. Should we then attribute this predominance to some slight injury to the nerves, caused by the fact of our reaching very deep into the axilla to remove a degenerated ganglion? Then we will observe

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that we do not understand why the eruption did not appear on the internal surface of the arm, where sensitiveness was much diminished in the region of the accessions. There was not any disturbance of sensation any where else.

CASE V.—L. Fernelly was suffering from an abscess of the vulvo-vaginal gland and a sanguineous cyst of the true pelvis, which opened into the bladder. This patient came under the care of Dr. Le Dentu, Feb. 18. On March 30, she was ordered a dose containing two grains of chloral. Less than eight days after, although she had not taken the whole dose every day, as she declared, she was taken with flushing of the face and some palpitation after meals. These symptoms went on increasing gradually, and as early as April 10th the patient had palpitation, oppression, redness of the face, and an eruption on the back of the wrists, and the anterior surface of the knees. But there was at the same time some gastric disturbances. Accordingly, chloral was ordered in a rectal injection on April 12th, and three grains were thus given. On the 13th, 4 grains were given. The 14th 5 grains. On examining the eruption on that day, it had the following character: Patient was seized immediately after meals with a sense of weakness and dizziness; the blood rushed to her face, and at the same time she felt violent palpitation, with dyspepsia. Her face was almost entirely red, and the skin glossy. So were her neck and upper part of chest. The hue was equally bright rose colored without elevation of the skin on the palmar aspect of the hands and fingers, and the soles of the feet. But we could notice at the same time red spots with sinuous borders, and an irritated skin on the dorsal aspect of the wrists, of the elbows over the olecranon, on the tops of the feet and the instep—on the kness over the patella. There was not the slightest itching.

Her pupils seemed rather contracted during the crisis. At any rate they were not dilated. Auscultation revealed no abnormality of lungs. On account of the excessive pain which the patient felt on a line with the hypogastrium we had to continue the injections of chloral in 5 grain doses every day.

But on April 22d a new incident occurred. She showed signs of a much more profound degree of poisoning: Skin cold, hyperæsthetic region here and there (on the body, particularly the

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back), marked pallor of face, extreme weakness and faintness, a tendency to syncope, dread of imminent death, and considerable dyspnœa without its being accounted for by any thoracic phenomena. Chloral was stopped accordingly for a few days, after which it was resumed on various occasions without it giving rise to any serious symptom.

We can see in this case that whatever the way in which chloral is administered it gives rise to the same symptoms; it is obvious that they do not depend on cardiac troubles resulting from the direct action of chloral on the stomach and the resulting dyspepsia.

Finally, I might cite the case of a patient under the care of Dr. Lancereaux, who was prevented from sleeping one night by a feeling of warmth, after she had been taking from two to five grains of chloral daily for eight days. This record, for which I am indebted to the good will of Mr. Dupont, out-door attendant, says that on the next morning the patient presented an almost universal eruption, consisting of rosy lichenous patches, which were the seat of severe itching. One might doubt, however, the nature of that eruption, as it disappeared completely in three days, after assuming a bronze hue, and did not return, although the chloral treatment was continued.

In all of these cases we see the chief features of chloral poisoning. The truth is that whenever a rather excessive dose of chloral is taken through accident, the patients are comatose, presenting at the same time a marked acceleration of the pulse, stertorous breathing and congestion of the integuments, particularly of the face and neck. It is only in a later stage that the pulse becomes less frequent, the face pale, and that the respiration finally grows slower, and even stops.

In our recorded cases, the symptoms appear in a determined order, so to speak, and present themselves with the features of a certain degree of regularity, at first the redness of the face following each meal, accompanied with a slight sensation of drowsiness and even sickness.

Soon the acceleration of the pulse is so marked as to become annoying. If the treatment is persevered in, to these symptoms, gradually increasing, is added dyspnœa, which was slightly no-

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ticeable the preceding days, but which becomes so marked as to absorb the entire attention of patients, and be the cause of their complaints. Should we observe them at that point, we would notice that not the face alone is red, resembling wine dregs in color, but this tint extends over the neck, the palms of the hands and sometimes the soles of the feet. These red spots, more or less marked, are variable in extent, and appear with sinuous borders generally. In some places the patch slightly encroaches on the neighboring skin, presenting at the same time a granulated aspect; in other places it is glossy, but does not project. This eruption evidently has favorite seats: the back of the hand and wrist, the upper and front part of the chest, the articulations of the knee and of the elbow on the extensor side, the top of the foot and the instep. The eruption generally lasts but a short while—from half an hour to a few hours; it is often itchy. Last of all, we sometimes observe, on the following day, some slight scaly desquamation on the part which it has occupied.

This eruption is as remarkable on account of its time of appearance as for its objective symptoms. We see that it always returns immediately after a meal. The time at which the remedy is taken seems to us to have nothing to do with the time of the recurrence of the troublesome symptoms. These, we would repeat, are dyspnœa chiefly, and palpitation of the heart, which constantly precede or follow a return of the eruption. The accelerations of the pulse may attain 140. The pulse is strong and energetic.

This description establishes in nowise a resemblance between these eruptions, those that appear in the course of some grave diseases, and the exanthema of variola, rheumatism, diphtheria, etc. From their pathology we would even be more tempted to compare them with erythemas due to the administration of such medicines as arsenic, mercury and iodine. But the course of the eruptions caused by these, and their appearance itself, differentiate them well enough from those just described. The belladonna eruption even resembles them more by its appearance, as well as by some concomitant symptoms, viz.: the acceleration of the pulse. But as to the erythema caused by the oleo-resins, it strikes us with its analogy of seat and appearance to those de-

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pending on chloral. Here is what Dr. Bazin says of the eruption caused by the oleo-resins:

"If the eruption breaks out slowly and in different places in succession, it is limited at first to various points which seem to constitute its various seats, such are the wrists, the malleoli, the knees, the hands and feet. It is also in these regions that it is the more marked through its course, and the more reluctant to fade. In other cases the exanthem is developed in a brisk and lively manner, invading all the integuments at once, when it is generally accompanied with febrile symptoms of a greater or lesser intensity.

"The roseola caused by the oleo-resins generally breaks out as red or rosy spots, unequally elevated, round or irregular at the edge, without any projecting part, and fading away under the pressure of the finger; some remain small and isolated; others are so confluent as to give to the skin an almost uniform redness. These spots, more or less confined to the regions alluded to at first, have but an ephemeral existence of themselves, and fade almost as soon as the use of the drugs is stopped. In case these are continued, it generally extends and pervades the whole surface of the body. The itching, very moderate at first, becomes very painful and at times intolerable. The eruption may undergo at the same time important modifications in its aspects and character, the elements of which they consist losing their appearance of simple maculæ to rise above the skin, and become true papules, appreciable by the finger and eye. This phenomena is more especially observed in the favorite places, in which large red patches are found, terminating at the edge in a sort of wavy and projecting bunch."

What is the mechanism of the eruption excited by chloral? Shall we admit here what Mr. Bazin affirms of copaiba, a direct action of chloral as it is eliminated by the cutaneous glands? Indeed, we know that it is generally admitted that this medicine, which is certainly eliminated in part by the lungs and by the renal secretion, is likewise eliminated by the sudoriparous glands. But we may answer to this that the patient who was the subject of our first observations had profuse perspirations, confined to the left side, and that he had nevertheless a bilateral eruption.

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Should we refer it preferably to vascular troubles? Says Prof. Vulpian, in his lecture: "The action of chloral on the vaso-motors is plain. The vessels of the web of a frog's foot are dilated, and all the mucous membranes in the mammiferæ are congested during the sleep induced by chloral. Although the eruption is accompanied by marked irregularities in the beats of the heart, yet we must say that clinical studies do not furnish very satisfactory explanations on that point.

CAUSES OF SICKNESS IN MICHIGAN.—Reports to the State Board of Health, Lansing, for the week ending July 17, 1880, by sixty-five observers of diseases in different parts of the State, show causes of sickness as follows:

DISEASES OBSERVED.	BY OBSERVERS.		DISEASES OBSERVED.	BY OBSERVERS.	
	Number.	Per cent.		Number.	Per cent.
Asthma	1	2	Fever, intermittent	58	89
Brain, inflammation of	3	5	Fever, remittent	38	58
Bowels, inflammation of	13	20	Fever, typhoid (enteric)	7	11
Bronchitis	27	42	Fever, typho-malarial	13	20
Cerebro-spinal meningitis	1	2	Influenza	8	12
Cholera infantum	31	48	Liver, inflammation of	1	2
Cholera morbus	46	71	Measles	14	22
Colic	1	2	Neuralgia	35	54
Consumption, pulmonary	42	65	Pneumonia	11	17
Croup, membraneous	0	0	Puerperal fever	4	6
Diphtheria	17	26	Rheumatism	36	60
Diarrhœa	57	88	Scarlatina	6	9
Dysentery	25	38	Small-pox	0	0
Erysipelas	15	23	Tonsilitis	17	26
Eyes, inflammation of	1	2	Whooping-cough	27	42

By the last column it will be seen that the most widely distributed disease was intermittent fever (ague); next to that, diarrhœa; next to that, cholera morbus; no cases of small-pox; scarlet fever in only nine per cent. of the localities.

HENRY B. BAKER,
Secretary State Board of Health.

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Foreign Correspondence.

ARTICLE VIII.

Messrs. Editors:—The problem, "What is malaria?" has not only a scientific interest, but, at least for Italy, is also a social problem of the greatest importance. There is no one who does not see, especially in Rome, the truth of this assertion. Great studies regarding this subject have recently been made by Prof. Tomasi Crudeli, of Rome; and here I shall briefly communicate some points of his paper read before the medical society a few months ago. He first occupied himself with the importance of the problem; he noted that the means used to destroy the nascent powers of this morbid agent did not have any other object except to remove one or more of those factors that experience has demonstrated necessary to the development of malaria, as are: 1st, A very elevated temperature; 2d, a persistent humidity of the soil; 3d, the access of air as far as the damp layers of the soil. These methods may limitate or temporarily stop the nascent action of the malarious places, but do not destroy "that particular aptitude of malarious grounds, that constitute the essential difference between them and those grounds, that notwithstanding they have the same composition and may be put in the same exterior condition, are not capable of generating malaria." So he demonstrated how those places where were used the proper beneficial means have been free for many years of malaria, and now were again infected, when these conditions that opposed to its development were ceased. According to the illustrious professor is valued the presumption that the cause of malaria consists in little solid bodies of little specific weight contained in the soil, which are capable of reproducing themselves ad infinitum, when they find all the conditions

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favorable to their development; that they are living organisms; but to show undoubtedly the parasitic origin of the malarious infection, he admits that necessarily must be proven: 1st, the constant presence of a determined organic species in the various qualities of malarious grounds, and in the air above the same; 2d, that the organic species must be able alone, that is without interferment of any other morbific agent, to generate a true specific intermittent fever. Regarding this object he has made many experiments with Prof. Klebs, of Vienna, and they consist in gathering air and soil of these malarious places, in examining these samples by the microscope, determining the various organic forms that are found, submit this material to liquids to obtain in these the predominance of one of these multiples living elements that existed in the air or in the soil and finally inject these liquids under the skin of rabbits. In this manner they have been able to obtain paroxysms of malarious intermittent fever by the use of one of these liquids containing in great abundance forms of "schizomiceti" pertaining to the gender Bacillus, a form that they consider as the excitant of the malarious infection, and call it "Bacillus malariae." What authorizes the experimenters to attribute the morbigenous action shown by the liquid, to those above described organic forms, is especially the counterproof that taken away by filtering the solid little bodies from the infectant liquid, this looses a great portion of its morbiferous potency. If the results obtained in these researches will be confirmed by new experiments made by the same experimenters and by persons competent as them, the modern experimental pathology can pride itself of one of the greatest discoveries that have been made at our time. I hope that the Prof. Tommaji and Klebs will not abandon this argument of study, and also I hope that if the science will recognize in this microscopical vegetable the ultimate cause of the malarious infection, will know also in future to give us the means for its destruction.

At last during last year has been added to the faculty of medicine, at Genoa, a professorship of dermatology. Not only in Genoa but also in all other universities of Italy the study of skin diseases has stepped forward as one of the leading branches taught. The clinic at Genoa is conducted by Prof. Campana, a very skillful

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diagnostician and practitioner. Last year the clinic, although in its beginning, has constantly been attended by many patients, and the labors of the professor in working it up have been crowned with the happiest success. In this clinic I have chiefly noted the use and action of the powder of Goa, which is obtained by pounding the woods of various Indian trees, which are known by those natives by the name of Araroba, or Aroriba in their tongue, meaning yellow taint, consisting chiefly in its totality of crysophanic acid, and to this is due its action. The ointment of crysophanic acid is prepared by dissolving it first in benzine and then mixing it with fat in the proportion ten parts to forty of lard; to prevent the erythema and in the face the erysipelas and œdema of the eyelids, Dr. Scarenzio has advised to apply around the limits of the affected part a layer of collodion, so as to circumscribe the erythema; this method very often succeeds, but may also fail. Not wishing to be too tedious in naming all the affections where it was used, I will only say: 1st. That the crysophanic acid is an excellent remedy in psoriasis, where, according to my observations, may prove useful, also in forms more difficult to be cured by this remedy, according to others (psoriasis guttata). 2d. That it is of utility in producing absorption of the papulo—hypertrophic syphiloderma, tubercula hypertrophic; the hypertrophy of the lupoid nodules; also without provoking solution of continuity of the superficies, especially if coajuvated by the precedent abrasion. 3d. That in lepra, produces absorption of the tubercles and of the macula infiltrations. 4th. That it is logic to conclude that this remedy cannot protect against relapses. 5th. That the rapid absorption of the nodules and leprous infiltrations does not facilitate the eruption of new manifestations, nor does it disturb the general condition. 6th. That in lepra may be noted facts of alterated thermogenesis, with relative increase of temperature in the affected part, an increase that sometimes seems to involve also the sound superficies contiguous the same side of the affected territory. The tincture of tayuya has been, during the past years, grandly lauded by some as the great specific in syphilis. In this clinic it had its trials, and I will say more than it ought to have had; no good effects could be gotten and was finally banished from the clinic as the remedy in syphilis. The tayuya

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did not at all respond to the clamor made by somebody. Not only is it behind, according to Dr. Geber, a thousand miles to the potassic iodide and mercury, but is inferior to those syphilitic remedies that the physicians of our day make use of, because of middling efficacy.

I must refer before I close to a pathognomonic symptom, very little known in the fracture of the neck of the femur. It is a traditional practice in this hospital, to explore, whenever the fracture is suspected, the small space that is found between the trochanter and the crest of the ilium. In placing the two extremities in the same position, instead of the considerable resistance given in the sound limb by the tension of the extensor muscle of the fascia lata, and of the gluteus medius, a deep hollowness is found in the affected limb, due certainly to the diminished tension of the above named muscles by the approaches of their points of attachment.

A. LAGORIO, M. D.

CHIAVARI, Italy, July 14, 1880.

ETIOLOGY AND PROPHYLAXIS OF PREMATURE BALDNESS. (*Revue Méd.* No. 22, 1880.)

According to Dr. Ellinger water and the regular use of ablutions of the scalp are the principal factors of premature baldness. In 100 individuals troubled with alopecia 85 used ablutions of the head since early youth; and among those who had preserved a luxuriant head of hair to an advanced age eight per cent. only had this habit. At the point of implantation of the hairs, the water forms with the epidermic layers and the sebaceous matter of the hair, an emulsion, an oil which concretes and obstructs the hair follicles which lead first to their distension, then to their atrophy.

M. Ellinger thinks a well performed mechanical cleansing, with sand or a wire brush, is not only the most sure means of prevention, but even a good curative for the fall of hair at the commencement.

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Reviews and Book Notices.

ARTICLE IX.—GUY'S HOSPITAL REPORTS. Edited by H. G. Howse, M.S., and Frederick Taylor, M.D. Third Series, vol. xxiv, 1879. J. & A. Churchill, London.

Guy's Hospital Reports need no introduction to the readers of any medical journal in the world. We have before us the 24th volume of the third series, a book of 496 pages, made up of twenty different articles, illustrated by nine plates and several wood cuts.

While we have neither time nor space for an exhaustive review of this most valuable "Report," we cannot lay it aside without calling attention to two papers which are alike remarkable for their originality and ability. We refer to "Art. XII, Constructive Inflammation and Ulcers; by C. H. Golding-Bird, B.A., M.B.," and "Art. XVII, Some of the Clinical Aspects of Chronic Bright's Disease; by F. A. Mahomed, M.D.

Article XII, by Golding-Bird, is richly worth a careful study by every student of pathology. It is an admirable exposition of what is at present known concerning the differentiation of protoplasm in "constructive inflammation," as it is seen in the repair of ulcers. Dr. Bird is evidently a biologist as well as a surgeon, and he handles his subject from the broad standpoint of one who is thoroughly acquainted with the laws of cell development. He regards, and very justly according to our way of thinking, "constructive inflammation," as essentially a "local living of embryonic life over again, a recommencement of evolution from a nucleated mass of protoplasm." And he immediately adds, "in this sense constructive inflammation or repair becomes a physiological rather than a pathological process." These two brief

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sentences indicate essentially what may be called the biology of the process of repair, excluding of course the process of "immediate union," which is so exceedingly rare that many surgeons deny its existence, and many others confound it with "union by first intention."

"In tracing out briefly the steps that occur in repair," says Mr. Golding-Bird, "it will be shown how exactly in detail they are the repetitions of early development, and in this sense also physiological."

The relations existing between embryonic development and the cell-differentiations of repair, are stated as follows:

"The blastoderm cells in the ovum, or the earliest cells of the embryo—hence called the embryo cells—are simple nucleated protoplasmic spheres or cells, capable of amœboid movements (Embryonic tissue).

"Later on, by these movements they acquire branches, and these unite into a tissue (Granulation tissue).

"Still later, this last becomes differentiated into fibrous tissue (Cicatricial tissue).

"All these conditions may be traced in the fully formed animal, in the constructive inflammatory process; its very existence depends upon their fulfillment."

We have not seen the broad principle that reparative processes in the adult are but the essential equivalent of embryonic cell-development; that cell-growth is cell-growth everywhere and always; that all cell multiplication and cell differentiation in the adult and in the embryo, are essentially one; that constructive growth in the adult is but the repetition of constructive growth in the ovum, so clearly stated before. Nevertheless, we have *taught* this doctrine for nearly ten years, not only with respect to so-called "constructive inflammations," but also in in relation to other processes which are classed as "pathological." To a very much greater extent than our text books indicate are "pathology" and "physiology" identical; to a very much greater extent than appears on the surface are the processes of embryological growth repeated in the adult body, both "physiologically" and "pathologically." Hence we have for years past urged upon students

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the importance of understanding the history of development as it is seen in the ovum.

Mr. Golding-Bird has some peculiar notions respecting the pus-corpuscle, and they are worth examining. In order to make his meaning clear we are compelled to quote somewhat at length.

"Although," says the author, "the name 'pus-corpuscle' has been given as synonymous with embryo cell, yet as a pus cell it requires here, more from its clinical than its histological aspects, some further and special mention. Microscopically there is no distinction between the pus cell and those with which it has been classed. The embryo-cell contains one or more (usually four) nuclei, whether it be taken from the tissues or immediately from the blood, although it requires generally the addition of acetic acid to exhibit them. *The pus-corpuscle has always four nuclei, hence it is the same as saying that the pus-corpuscle is only a four-nucleated embryo-cell.*

"To the surgeon the pus cell is a cast off and dead element; and as we see it with the naked eye so it is, but in situations only penetrable by the microscope, *it is a living entity, and enjoying all the amœboid and locomotive characters of the one-nucleated cell.* (The italics are our own.) But why should the pus-cell contain four nuclei? Or why should pus—clinical pus that is—be composed solely of four-nucleated cells?

"Clinical observation here assists the histological, and if the answer to be given does not explain why a healthy white blood corpuscle may have four nuclei, it is yet amply sufficient for the subject under consideration. When a protoplasmic cell divides, the process commences in the nucleus, hence an embryo-cell (pus) that contains four nuclei may be regarded as one in which multiplication has been checked at the first stage. Through lack of nutrition there is not sufficient energy on the one hand, nor protoplasm on the other, to complete the process, though in all other respects the cell retains its vital functions. The general state of health, as well as local conditions, therefore, may be expected to influence the amount of pus, and this every surgeon knows to be the case; pus in excess meaning nutrition so perverted that a greater or less amount of protoplasm is no longer

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able to be fixed in the tissues, and is therefore thrown off and lost."

According to our observation, although the pus cell frequently contains four nuclei, it is by no means an invariable rule. Very many pus cells never get beyond being "nuclei," biologically considered, yet they are potentially "pus" cells. There is really no fixed and unalterable law governing the development of pus cells; hence there can be no invariable rule as to the number of their nuclei. Mr. Golding-Bird's explanation of the presence of four nuclei in pus cells seems to us exactly no explanation at all. In fact it utterly fails to explain what is perhaps the most common mode of the development of pus cells, in the early stage of suppuration, in acute parachymatous inflammations, namely, by budding or "gemmation."

The remainder of this interesting paper is devoted to the discussion of "granulation tissue and granulations," "epitheliation" and the "pathology of granulation tissue," and each one of these subjects is handled with marked ability. We cannot agree with the author that "epithelial cells are developed from the embryo cells of the granulation tissue," but rather that they are developed from the bioplasts of previously existing epithelial cells; that is, we are strongly inclined to believe that the "doctrine of epithelium from epithelium" is the true doctrine after all. While we notice nothing in either of these three concluding sections which merits especial commendation or invites criticism, we take pleasure in advising every student of pathology to read carefully and thoughtfully the entire essay upon "Constructive Inflammation and Ulcers," with the assurance that it will be found equally pleasant and profitable. I. N. D.

ARTICLE X.—BRAINWORK AND OVERWORK. By Dr. H. C. Wood, Clinical Professor of Nervous Diseases in the University of Pennsylvania. Philadelphia: P. Blakiston; 1880.

This book is worth reading carefully. In the second chapter of the work the author considers the causes of nervous diseases. "Bad food, bad water, habitual filth, and living in badly ventilated, damp or dark houses," are among the etiological forces behind many nervous and brain disorders.

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Dr. Wood divides the causes of nervous diseases into two great classes, viz: exposure and dissipation. In considering the influence of hard work as a cause of nervous trouble, the author records it as his firm belief that this factor is greatly overestimated. There are a few pages (commencing with the fiftieth) of great interest, in which the author discusses the manner in which mental labor affects the brain. Chapter IV is devoted to the discussion of "Rest in Labor." Chapters V and VI to "Rest in Recreation and Sleep."

The book, written in a pleasing style, free from technicalities, is one which will interest the general reader and contains in its 125 pages a large amount of information upon several important themes.

There seems to be a desire, upon the part of the writer, to impress the fact on every reader of the book that hard work, in certain limits, is not only not hurtful but necessary to health; and that on the contrary, worry and waste of nervous and physical forces are deadly foes to health. The chapters are too short to give a satisfactory discussion of their several titles, but the intelligent reader can glean much useful information from the book.

B. W. G.

ARTICLE XI.—OBSERVATIONS ON FATTY HEART. By Henry Kennedy, A.B., M.B., Univ. Dublin; Fellow of the King and Queen's College of Physicians in Ireland; Physician to Simpson's Hospital, etc. Dublin: Fannning & Co.; 1880.

This is a small volume of 171 pages, treating of the morbid etiology, anatomy, symptoms and diagnosis, prognosis and treatment of fatty heart.

The author recognizes two varieties of this affection, both of which he believes dependent on a fatty diathesis and the manifestations of a general disease rather than a local disorder.

The subject is quite thoroughly considered, and whatever clinicians may think of the author's propositions, they are certainly of great interest and merit careful consideration.

In the diagnosis of fatty deposit on the heart the main reliance is placed on: 1st, a slow, full pulse; 2nd, enlargement of the area of cardiac dullness; 3d, the fact of the individual being

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fleshy; and 4th, a soft soufflet with the first sound of the heart in the aortic area whenever the valves are affected.

In the diagnosis of the fatty degeneration of the muscular fibers of the organ he relies mainly on: 1st, a slow pulse, often less than 50 per minute; 2d, weak impulse of the heart apex; and 3d, weakness of the heart sounds, the organ meanwhile retaining its normal size.

The only other disease causing these two latter signs are pericarditis and dilatation of the heart, but in both these there is an increased area of dullness and a more or less rapid pulse. In rare instances the heart-sounds in fatty degeneration are distinct and rapid, but they then have a metallic quality and seem distant like the fœtal heart.

The nervous and other symptoms attending these two varieties are much alike and are always of importance in forming a diagnosis. The principal of these are dispnœa, loss of strength, flabby condition of the muscles, uneasiness or pain in the region of the heart or diaphragm, hesitating or slow speech, and not infrequently pseudo-apoplexy, in which the patient, without any warning, falls as though shot and presents, in more or less perfection, the ordinary symptoms of apoplexy, the characteristic feature being that the loss of consciousness or paralysis are only temporary; at first usually disappearing in a few moments, and later after, at most, an interval of a few days.

The book is well worth the careful perusal of every practitioner as it deals with a subject too litte understood and especially with a diagnosis which is not usually made until the autopsy. E. F. I.

ARTICLE XII.—OUR HOMES. By Henry Hartshorne, A.M., M.D., Formerly Professor of Hygiene in the University of Pensylvania, etc., etc. Philadelphia: Presley Blakiston, 1012 Walnut St.; 1880.

This book is one of the series of American Health Primers published by the enterprising Philadelphia house whose name appears above. The author of the book is an eminent authority upon the subject about which he writes.

Dr. Hartshorne has given to the public, in a concise, condensed and practical form, the results of his thought (as well as that of

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others) upon a very important topic. It is no less important a theme than that of the situation, construction, ventilation, lighting, warming and drainage of dwelling houses.

Preventive medicine must, as the masses become more intelligent, become an important factor in medical literature. It is of great consequence to know how to prevent disease. There is no doubt that a large percentage of disease and death grows out of utter ignorance in regard to the laws of health. This being so, hygiene is an all-important department of medicine. The writer has made no pretense of producing an elaborate and exhaustive treatise on the subjects which he introduces. He has, the rather, condensed and sifted the literature which has been written upon these topics; and, as a result, has made a book, which, while it is instructive and interesting, is not dull nor burdened with unimportant facts. The book is a résumé of the writings of English, German, and American authors on Hygiene. It touches only the salient points of the subject which it discusses.

The chapter on the situation of dwellings contains some suggestive remarks. The dangers from malaria, carbonic acid gas, surface defilement, etc., are strongly set forth. The faulty construction of houses is asserted to be, in many instances, a fruitful cause of disease.

The author quotes experiments from the eminent Bavarian experimenter, Prof. Pettenkofer, which show how ground air is brought into dwelling houses and becomes an invisible and unsuspected foe to health and comfort. The use of wall papers containing arsenic is condemned in vigorous terms.

The subject of drainage, to which the writer devotes the longest chapter in the book, is presented more fully and elaborately than any of the other topics, which, taken together, form the book. This chapter contains quite a detailed account of different systems of plumbing and draining, and the reader can glean from it, by a careful perusal, all the really important points relating to the subject of drainage. There are, of course, other and more elaborate works, which treat this subject exhaustively. In short, this book is suggestive rather than exhaustive, brief and to the point, fully up to the times, and will repay a careful reading.

B. W. G.

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BOOKS AND PAMPHLETS RECEIVED.

Pathogenetic Outlines of Homœopathic Drugs. By Carl Meingke, M.D.

Sea Air and Sea Bathing. By J. H. Packard, M.D. Philadelphia: P. Blakiston; 1880.

A Text Book of Physiology. By M. Foster, M.D., F.R.S. Philadelphia: H. C. Lea's Son & Co.; 1880.

The Black Arts in Medicine. By Jno. D. Jackson, M.D. Cincinnati: R. Clarke & Co.; 1880.

Clinical Treatise on Diseases of Nervous System. By M. Rosenthal, Vienna. Vol. II. New York: Wm. Wood & Co.; 1879.

The Practitioner's Reference Book. By R. J. Dunglison, M.D. Lindsay & Blakiston, Philadelphia; 1880.

Transactions American Gynæcological Society. Vol. IV, for year 1879. Boston: Houghton, Mifflin & Co.; 1880.

A Guide to the Practical Examination of Urine. By James Tyson, M.D. Philadelphia: Lindsay & Blakiston; 1880.

Health and Healthy Homes. By Geo. A. Wilson, M.D. Philadelphia: Lindsay & Blakiston; 1880.

Lessons in Gynæcology. By Wm. Goodell, M.D. Philadelphia: D. G. Brinton; 1880.

Transactions Indiana State Medical Society for 1880. Thirtieth Annual Session. Carlon & Hallenbeck, Indianapolis; 1880.

The Female Pelvic Organs. By H. Savage, M.D., London. New York: Wm. Wood & Co.; 1880.

Report of Michigan State Board of Health for year 1879. Lansing, Michigan; 1880.

Naso-Pharyngeal Catarrh. By M. F. Coomes, M.D. Louisville, Ky.: Bradley & Gilbert; 1880.

The Microscopist's Manual for 1879. Price 25c. Industrial Publication Company, New York; 1880.

Transactions of the Tenth Annual Session of Virginia Medical Society; 1879.

Relations of Communities and States during Epidemics. By Hon. James B Eustis New Orleans: 1880.

Time of Conception and Duration of Pregnancy. By Dr. Geo. J. Engleman. St. Louis; 1880.

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Fluid Extracts for the Coming Pharmacopœia. Reprint from *Therapeutic Gazette*, April 15, 1880.

A Severe Case of Puerperal Eclampsia. E. Day, M.D.

Relation of the Medical Profession to the Trade Interests of Materia Medica, and a Note on Pepsin. Edw. Squibb, M.D.

Fracture of the Patella: A Study of 127 Cases. By F. H. Hamilton, M.D. Chas. L. Benningham & Co., New York; 1880.

The Management of Children in Sickness and in Health. By A. M. Hale, M.D. Philadelphia: P. Blakiston; 1880.

Post Mortem Examinations. By Prof. R. Virchow. Philadelphia: P. Blakiston; 1880.

Thos. Keith and Ovariotomy. By J. Marion Sims, M.D. New York: Wm. Wood & Co.; 1880.

Aids to Chemistry. Part II: Inorganic—The Metal. By C. E. A. Semple. New York: G. P. Putnam's Sons; 1880.

Perinephritis. By V. P. Gibney, M.D., New York.

Kolpo-Cystotomy by Electro-Cautery. By Jno. Byrne, M.D.

Cases of Tracheotomy for Croup and Diphtheria. By E. F. Ingals, M.D.

Diseased Meats and Foul Water. By H. M. Lyman, M.D.

The Bromide of Ethyl as an Anæsthetic. By J. Marion Sims, M.D., New York.

Aids to Materia Medica and Therapeutics. By C. E. A. Semple. New York: G. P. Putnam's Sons; 1880.

Aids to Chemistry. Part III: Organic. By C. E. A. Semple. New York: G. P. Putnam's Sons; 1880.

Aids to Physiology. By B. T. Lowne, F.R.C.S. New York: G. P. Putnam's Sons; 1880.

Aids to Chemistry. Part I: Inorganic—The Non-Metallic Elements. By C. E. A. Semple. New York: G. P. Putnam's Sons; 1880.

Transactions of the Medical Society of Tennessee; 47th Annual Meeting; 1880.

The Histology of the Blood Vessels. By E. C. Wendt, M.D. New York: D. Appleton & Co.

The Therapeutic Value of Iodide of Ethyl. By R. M. Lawrence, M.D.

The American Medical College Association; 4th Annual Meeting, New York, 5-31-80 and 6-1-80.

Physicians and their Patients. A Lecture by C. H. Merrick, M.D., Portland, Oregon.

Annual Announcement of University of City of New York for 1880-81.

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Study of Fractures of Inferior Extremity. By L. S. Pilcher, M.D., Brooklyn, N. Y.

Indication for an Early Trepanation of the Mastoid Process in Acute Otitis, etc., etc. By F. C. Hotz, M.D.

Annual Announcement St. Paul Medical College.

Division of the Sphincter Ani Muscle as a Therapeutic Measure. By C. B. Kelsey, M.D., New York.

Optico-Ciliary Neurotomy. By J. J. Chisholm, M.D.

Thirteenth Annual Catalogue Detroit Medical College, 1880–81.

On Coccygodynia. By E. W. Jenks, M.D.

Thirty-eighth Annual Catalogue of Rush Medical College, 1880–81.

Report of N. O. A. S. Ass'n on Construction and Management of Privies, 1880.

Sea Sickness. By Geo. M. Beard, M.D.

Prolapse of the Ovaries. By Paul F. Mundé, M.D.

Announcement of Medical Department of University of Pennsylvania; 115th Annual Session, 1880-81.

Annual Announcement of Trinity Medical School, Toronto; Session 1880–81.

Chirurgie Antiseptique. Principes Modes d'Application et Resultats du Pansement de Lister. Par le Dr. Just Lucas, Championnière, Paris; 1880.

DR. LEVINSTEIN, of Berlin, Prussia, has had under treatment for morphinism eighty-two men and twenty-eight women; of these 110 patients, thirty-two were physicians, eight physicians' wives, seven persons more or less intimately connected with the profession, eight apothecaries, and one apothecary's wife. Of the thirty-two physicians, twenty-eight relapsed, as did all the apothecaries.—*Gaillard's Med. Jour.*

WE regret to announce the death of Dr. F. H. Davis of this city, the talented son of our senior editor, Dr. N. S. Davis, and we deeply sympathize with our associate in this, his great bereavement.

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Selections.

SOME POINTS IN THE PATHOLOGY OF TUBERCLE. By J. M. DA COSTA, M.D. Read at the meeting of the Pathological Society of Philadelphia, April 22, 1880.

In attempting to put together some thoughts on the pathology of tubercle, it will be necessary, however briefly, to refer to the unsettled state of the question in the best medical minds of the day. Immediately following Laennec, nothing could have appeared more firmly fixed than the doctrine he so clearly enunciated. It was impossible to doubt tuberculosis as a specific disease. To have misgivings as to the nature of consumption and its constant association with tubercular destruction was to appear to return to barbaric darkness. Not to separate with clearness the different forms of tubercle was to forfeit all claim to be a pathologist. But we all know what has recently happened. The German iconoclast has been at work. Nobody likes to speak now of tubercular diathesis, of tubercle being a constitutional affection. It is for the most part simply the result of a local inflammation; and cheesy matter, infective process from absorption, irritation in structures abounding in lymphatic tissues, are the complacent phrases of the day, which satisfy most as much now as diathesis, constitutional condition, specific deposit, satisfied most not many years since.

And the local view, if such it may be called, once adopted, has brought with it scores of interesting observations on the inoculation of tubercle; its artificial causation; its production in the lung by inhalation of both tubercular and non-tubercular substances—observations which are warmly discussed, criticised, adopted, rejected, explained, explained away, and the uncertain-

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ties connected with which, quite apart from the other difficulties of the subject, are the cause mainly of the generally disturbed condition of the whole inquiry.

Underlying these observations, or at least closely connected with them, lies the vital question, What relation does tubercle bear to the inflammation? And it is this question particularly that I desire to examine with you a little more fully to-night, and concerning which I shall venture to offer the result of some researches and reflections.

As a necessary introduction, I shall have to examine the evidence on which we pronounce a mass to be tubercular; in other words, what its minute structure as shown by the microscope is. And, to avoid any confusion at the threshold of our inquiry, let me speak of that which we find in undoubted tubercle, in the little, hard, miliary bodies, which may afterwards become aggregated into larger, gray masses. In them we encounter three elements:

Medium-sized, rather shriveled cells, not very regular in outline, consisting of finely-granular, dense material, with a nucleus small in proportion to the cells, or with several nuclei of similar character. They were once regarded as significant of tubercle, but they are now supposed to be swollen epithelial cells which have undergone retrograde metamorphosis. Mixed up with them are cells less dense and like ordinary epithelium, small cells like leucocytes, and a great deal of granular material of doubtful origin.

Giant cells. These consist of large, many-nucleated cells, which are found at rather an advanced stage of tuberculosis, and are very marked in the acute form. They are of spheroidal shape, and somewhat irregular outline. Great stress has been laid on them as significant of tubercle, but they have been met with in deposits in various tissues of the body, in scrofula, in syphilis, and in merely hyperplastic lymph-glands of those perfectly free from tubercle.* As they grow they send out long, branched processes. With Klein, I believe them to be excessively developed or fused epithelial cells.

* Weiss, Virchow's Archiv, lxviii.

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The structure in which all these cellular elements are found, especially, perhaps, those last described, is *a fine net-work* like the fine trabecular net-work in the interior of lymphatic glands; and this led to the belief entertained until recently by Rindfleisch, that tubercle is a lymphoid growth. But this is not stating the whole of the manner and arrangement of the cells in tubercle. They are found in the lungs filling the alveoli and infiltrating—generally as small, round cells—the alveolar walls, and leading to very considerable thickening of the latter.

To sum up, cell-growths by themselves, not peculiar, but representing different grades of development—some still rapidly growing, others shrivelling and full of dense matter; all capable of being washed out of a fine reticulum, or accumulating in masses both within and in the walls of air-vesicles—this structure, this grouping, may be regarded as tubercle. Then there are certain secondary alterations that take place in the tubercular formation and the invaded tissue which must also be mentioned, and which bespeak a retrograde change and low vitality. The main of these changes is a degeneration of the cell-growths, an accumulation of granules and fatty material, and an occlusion of the pulmonary capillaries, probably from pressure, and here and there a fibroid transformation of the giant cells.

Now, what causes all this? Some still maintain a specific non-inflammatory deposit; some say an inflammatory process of slight intensity; others a specific inflammation. I pick up a recent journal, and see that malaria is at the bottom of all this strange cell-growth and rapid decay. I turn to one of this month, and I find in the front of the periodical an article proving that tubercle has its origin in disorders in the trophic centers, and in the middle pages another, showing that it is an accident, the result of the capillary interference, due to altered condition of the blood from the presence of yeast. It is almost needless to say that the bacteria are made to explain the peculiar formations, for how could these patient little beings that are bearing so quietly being made the scapegoats of the pathologists of the last half of the nineteenth century, escape having charged to them this additional sin? I turn with eagerness to discussions of the subject replete with learning in societies similar to ours, and there is little but negation. It is not this,

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and not that, say men who are known wherever medicine is cultivated; and you begin to doubt if there is such a thing as tubercle at all, until the first clinic-room you go into—and see the familiar face, hear the cough, and recognize the well-known signs—confronts you with the stern reality of the awful disease. With all these doubts and gropings after the truth, I may be pardoned if I hold fast to the belief that the process, whatever it be, is something special, though something of which we do not hold the key.

To return from this digression to one part of the subject around which much of what is positive in our knowledge has clustered, and which is of most obvious applicability—the relation of these mysterious tubercular formations to inflammation.

Now, we all know how the relation of tubercle to inflammation has engaged the attention of the present generation of pathologists. Yet the consideration of the question long antedated them; and the much-neglected observations of that sagacious thinker, Addison, are really the key-note to many of the views now brought forward under other names. But this is a historical issue, with which we cannot further concern ourselves here. The active discussion of the matter started with the observation of Virchow that the caseous matter previously regarded as infiltrated tubercle might originate from the fatty degeneration of diverse morbid products, and was non-tubercular; indeed, that the gray granulations alone were tubercular and non-inflammatory. Niemeyer expanded this thought, and engrafting on it the doctrine of Buhl, of the infection of tubercle, promulgated the view that the lung consolidation and destruction were most commonly inflammatory—the result of the caseous pneumonia—and the tubercle, when met with, quite secondary and accidental. Indeed, to carry out Niemeyer's ideas logically, the inflammation is, in the vast majority of instances, everything, the tubercle nothing.

The doctrine of Buhl has been alluded to, that tuberculosis—as seen, for instance, in its most typical form of miliary tubercle—is due to infection from masses of cheesy material. The infection happens chiefly through the lymphatics. This infection theory led to numerous experiments on animals, with the result

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that inoculation in rabbits and guinea-pigs with fresh miliary tubercle, with cheesy matter, with the sputa from tubercular patients, has been followed by acute miliary tuberculosis. Moreever, going still further, Cohnheim and Fraenkel have shown that it is unnecessary to inoculate with these special matters, for in rabbits and guinea-pigs the formation of any focus of suppurative inflammation may fill the viscera with tubercles. With reference to these experiments, it has been pointed out that the kind of animal on which they are made has much to do with the the result. Rabbits and guinea-pigs are particularly prone to tuberculosis. Yet, as regards inoculation with tubercular matter, it has also succeeded on other animals, as in the experiments of Böllinger on goats.*

Another group of experiments must be alluded to,—those in which pulverized tubercle and cheesy matter have been forced into the lung by inhalation. These have been followed by tubercular-looking nodules; and so have, as Schottelius† has recently demonstrated, inhalations with non-tubercular substances, such as pulverized calf's brain and cheese, produced apparently identical bodies. They are the results of inflammatory irritation. But, microscopically examined, they do not present the appearances of tubercle.

Summing up all the experimental observations, they seem to me to prove that tubercle may be transmitted by inoculation either of true tubercular matter or so-called caseous pneumonia; that resorption of tubercle and infection of previously healthy parts is a view sustained by evidence; that the production of tubercle from non-tubercular material, either by inoculation or by inhalation, is not proved. Inflammatory nodules arise, but they have not the structure of tubercular formations.

I shall now attempt to answer the question what is the exact nature of those inflammatory changes in the lung which give rise to destructive consolidation, supposed to be non-tubercular, yet from which, by infection, tubercle may come. In other words, I shall endeavor to describe the histology of so-called "caseous pneumonia," or pneumonic phthisis. We find within

* Mittheilungen aus dem Pathologischen Institute zu München, 1878.

† Virchow's Archiv, lxxiii, 1878.

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the alveoli an accumulation of large cellular elements, mixed with leucocytes and exudation matter. We observe the alveoli walls thickened and infiltrated with cells, the vessels compressed, accounting for the breaking down of the bloodless masses accumulated in and around the alveoli. We meet with inflammatory infiltration in the walls of the bronchi, and as Rindfleisch has so well pointed out, around them, as well as with increased connective tissue between the lobules and around the finer bronchial tubes. In studying the cellular masses we encounter the so-called giant cells. There is, indeed, nothing we do not find in this caseous pneumonia that we have not spoken of in tubercle, only the proportions are different and the admixture of the elements of inflammation more marked. These changes spread usually over a large portion of the lung, and, especially as regards the amount of connective tissue, are modified by the duration of the disease. One of the most striking of the lesions, and one which I have rarely failed to encounter in the many specimens examined, is the infiltration with small cells of the walls of the alveoli. Green,* too, regards them as very important, and Wilson Fox† looks upon them even as tubercular. As the cheesy matter degenerates, evidences of broken-down tissue, with considerable granular detritus, meet the eye. Yet Cohnheim‡ has recently told us that the cheesy part contains in reality but little fat.

Now, is there anything in all this which broadly separates this so-called caseous pneumonia in its minute structure from tubercle? Is there anything more than the evident admixture of a marked inflammatory lesion? Is there anything in the low vitality of the mass and its tendency to decay and fall asunder which is different? And if we call this affection at once "tubercular pneumonia," we are, I verily believe, much nearer to the truth than in endeavoring to separate it from tubercle altogether.

But it is not simply on histological grounds that I arrive at this conclusion. I have long studied the subject clinically, and can record it here as my deliberate opinion that the number of

* Pathology of Pulmonary Consumption, 1878.

† Transactions of Pathological Society of London, 1873.

‡ Die Tuberkulose vom Standpunkte der Infektionslehre, 1879.

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cases of consumption which are supposed to have inflammatory beginnings is grossly exagerated. They are the exception, not the rule; and even in the cases in which we have had evidence of an active bronchitis or pneumonic condition having seemingly been the start of all the difficulty, how often do we not find, on close analysis, that failing health, hacking cough, even slight spitting of blood, have preceeded the acute symptoms? Then, too, we may get the history of inherited scrofulous or tuberculous diathesis. But I do not wish to be misunderstood. There are cases in which none of these qualifying elements can be discerned, which have, to all appearance, started in an acute inflammatory process. It is only the relative frequency of these cases that I am denying.

Again, I ask, what becomes of the instances of so-called pneumonic phthisis? Do they become tubercular? How many autopsies can any one recall, where persons dying from some intercurrent affection, while laboring under so-called pneumonic phthisis, did not show at some portion of the lung, miliary tubercle or larger masses which everybody would pronounce undoubted tubercle?

Now, admitting the connection of so-called "caseous pneumonia" or "pneumonic phthisis" with the subsequent development of tubercle,—and nobody denies this, whatever his views as to the character of the connection,—I believe that it is quite as logical to reason from the after-appearance of the tubercle as to the primary character of the so-called inflammation, as to reason from the inflammation and absorption of its products to the formation of the tubercle. The reasoning backward is as good as the reasoning forward, and, I think, infinitely more likely to be true.

Again, how many cases of ordinary pneumonia happening in perfectly healthy persons are met with which pass, no matter how, into tubercle? Certainly not many. When it occurs there is generally the history of scrofula or tubercle in the family, the taint. Many of the advocates of the inflammatory origin of tubercle, or of its subsequent development after inflammation, tacitly admit this when they speak of the inflammation as special or specific. If it is special or specific, I say at once it is tubercular,—tuber-

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cular either from the onset, or it has become so when it presents the appearance of caseous changes.

I am advocating, then, the view that caseous pneumonia leads to tubercle elsewhere, because it is really tubercle already; and that it is not the products of ordinary inflammation, but the tubercular products, which infect. They may appear with the inflammation or be the result of a special kind of inflammation; that does not affect my argument.

Now, one great difficulty in admitting this argument is, that since the researches of Virchow have familiarized us with the facts we cannot assume all kinds of caseous degeneration as tubercular. We know that such changes may happen in purulent collections, in cancer, and that, microscopically, they present the features of the so-called cheesy degeneration which attends pneumonic phthisis. But is there nowhere else similarity of appearance without identity of meaning? Can we tell every case of cancer, under all circumstances, by its cell-growth alone? Are there no healthy textures in the course of formation that look like it? Does every sarcoma present infallible features at all its stages? Moreover, I have already stated that we very generally, nay, almost constantly, find in the pneumonic lesion much the same elements, mixed with the products of degeneration, which we recognize as tubercular in undoubted tubercle.

I believe, then, that pneumonic phthisis is a tubercular pneumonia, and that the inflammation is tubercular from the onset, or has acquired a tubercular nature by changes in the cell-life which we do not understand. Perhaps these are connected with sluggish tissue-change under the influence of a virus,—a taint inborn, or acquired by impure air and bad hygienic surroundings. That we cannot see these things in the protoplasm or cells with even our highest powers is no proof of their non-existence. Do we perceive the manly form of the athlete in the little spermatozoon? What do we find in the ovum to explain the transmission of the delicate features and matchless figure of one generation to the famed beauty of another? Where are, in either germs, the lurking tendencies to disease which we see constantly reproduced in families? Where the specks that indicate cancer, scrofula, tubercle, gout?

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The tubercular inflammation may appear as such, and then we have a more or less acute character of case; or the tubercular action may not start for years afterwards. I shall show you some drawings taken from cases that I had watched for years.

Here is one from a woman of 45, who, under my observation, had for eight years a chronically-consolidated lung, non-tubercular. Sorrow overtook her, her general health failed; struggles with poverty came, and she became tubercular. You perceive here how the lower lobe of one lung had undergone the caseous change and contained tubercles, while the upper is simply dark with pigment and densely consolidated. A few scattered, comparatively recent miliary tubercles are found in the other lung.

Here is a yet more striking instance, where a man had for five years a lung which, you see, looks exactly like the red hepatization of ordinary pneumonia. Softening, without a vestige of tubercle, is occuring in parts. In a streak at the upper lobe tubercular pneumonia is evident; the other lung is entirely healthy.

Perhaps the views here advocated may appear to call in doubt the transmission of tubercle by resorption and infection,—its constant reproduction, as it were, and scattering through the system. But they do not. These observations are among the best sustained and most valuable in modern pathology, and they are all the easier to understand if we admit the starting-point of the infection to have been a tubercular inflammation. As a contribution to this doctrine of infection and absorption, and also as furnishing many points of analogy with the instances mentioned where inflammation of the lung has been followed by tubercular formation, let me show the remarkable specimens of abdominal tumors and tuberculosis on the table, taken from cases of mine that happened some years since at the Pennsylvania Hospital.

In the first case, occuring in a man the subject of syphilis, and much tormented with abdominal pains, a hard tumor was discovered in the right iliac fossa. This was followed, after some months, by marked emaciation, sweats, diffused abdominal tenderness, diarrhœa, and signs of deposit in the lungs. At the autopsy the mass you see here of dense fibrous tissue was found in the

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right iliac fossa, below the head of the colon; a small cavity containing pus was detected in its interior; on its exterior were tubercular nodules, The intestines, on their peritoneal surface, throughout their length were thickly studded with tubercular nodules; the mesenteric glands were enlarged and softened; there were miliary tubercles in the lungs.

In the second case, a man also broken down by syphilis, there was the same history of colics and cramps, a tumor was discovered in the right iliac fossa, three inches from the crest of the ilium. He had noticed the tumor for years. Gastric irritability, tenderness over the abdomen, ascites, diarrhœa, fever, cough, signs of lung-consolidation, became gradually prominent symptoms, and he died exhausted. A thick, firm mass of inflammatory matter was found covering the cæcum, and had occasioned the tumor. At one part, on the outer and lower wall of the cæcum, was a small cavity containing gelatinoid matter mixed with black, thin fluid. The ileum above the ileocæcal valve, as well as the inflammatory, hard tissue in this region, was covered with tubercles. The kidneys contained tubercles; in the left supra-renal capsules were several tubercular nodules. The lungs were full of small, gray, tubercular granulations.

Here, then, are two cases of strange similarity, in which a local inflammation in the abdomen was followed in time by diffused tubercle, both abdominal and pulmonary. But let us return to what I more particularly meant to discuss,—the formation of tubercle in the lungs, and its bearing on the different kinds of phthisis, especially pneumonic phthisis.

Will the views which I have endeavored to bring before you do away with the clinical distinctions concerning which we hear now so much? Not at all. If the so-called pneumonic phthisis has a separate history, gives points for special diagnosis and prognosis, requires different treatment, it ought, no matter what our views of its real pathology, to be recognized as a distinct form. But let us go no further; we are leaving the broad highway for rough and tortuous paths, when, as is the tendency of the present day, we attempt to sweep all cases of lung-destruction into the phthisical category.

What do we gain by reverting to a very old nomenclature, and

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by making phthisis a generic term? To carry this out, we ought even to abolish the word cancer, and speak of it as a cancerous phthisis, for surely there is also destruction of the lung enough in pulmonary cancer. The consequence of all this agitation about the word is nothing but confusion. Scarcely two persons seem to use phthisis in the same sense. There are forms of lung-destruction which are clearly non-tubercular; let us give them their special names, and not apply to them a term which has long been applied to that by far most common form of lung-destruction,—phthisis from tubercle. Pneumonic phthisis may be made a separate variety; but that ought to be all. Nay, I venture to suggest whether, in view of the idea long associated with the name of phthisis, and of what I still humbly believe is beyond comparison the most frequent cause of the consumption, it will not be better, unless some other form is particularized, still to retain the name for the tubercular malady, and to so understand it.

But I have claimed your indulgence long enough, and, in bringing these remarks to a close, I can only hope that some train of thought may have been suggested by them which your labors will brilliantly elucidate. *E scintilla lux;* from the flickering glimmer of to-night I trust through others for the steady glow on a subject that sadly needs light.

—*Philadelphia Medical Times.*

ON MOVEMENT AS A THERAPEUTIC AGENT. By JOHN K. SPENDER, M. D., London, Bath.

The therapeutic doctrine of Rest has had so many prophets and bards, that it may seem daring to ask the question, whether it has not been pushed a little too far, or always used with discretion. The service done in this matter by the late Mr. Hilton cannot be overvalued, because, before 1861 (or thereabouts), there was no distinct appreciation of the physiological reasons of rest. It had been often applied without precision, and still more often in a halting and imperfect way. The enthusiasm which was the fruit of Mr. Hilton's teaching carried us almost out of the domain of pure unemotional science. The theory was not new, but it

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was put in the most attractive guise. Rest is first cousin to sleep; and if sleep can refresh and restore the healthy body, why may not rest undo some of the bad doings of disease? My present argument is not to disparage rest, but to plead for its more rational application. A remedy may be too benign, too quiet, almost too agreeable. It may be potent to subdue the slow workings of an insidious malady, but the healthy nutritional forces of the body require stir and exercise, anything but too much rest. Herein lies the danger—the real danger—that rest may not be left off at the proper time, and normal movement begun. I venture to ask, therefore, whether the therapeutic pendulum of rest has not swung rather too far.

It is indeed remarkable that there was no formulated doctrine of either rest or movement until within the last twenty years. As therapeutic agents, the words are not found in the index of Dr. J. Mason Good's *Study of Medicine* (1840); nor in that of Dr. Copland's *Dictionary of Practical Medicine* (1850); nor in that of Dr. J. Hughes Bennett's *Principles and Practice of Medicine* (1859). There is no index to South's *Translation of Chelius' Surgery* (1847), but I can find no allusion to the subject in this really grand work. It is admitted that, in an empirical sense, rest and movement have been employed since medicine became an art; but the scientific grounds for either one or the other were not always clearly grasped or opportunely carried out. The boundaries between the conditions which demand such opposite lines of treatment are sometimes not easily traced. How are we always to know when local symptoms have become so quiescent, that it is safe to undo the fetters of immobility and restraint, and tell a lame man that he may try to walk, or let a crippled hand begin to work? Pain is not an unerring guide. It is a fact in clinical medicine, that rheumatic neuralgia is sometimes worst when muscles are most rested; for a rheumatic person may awake after a night of good sleep with limbs stiff and painful, which symptoms distinctly pass away after moderate exercise and warm food. In like manner, surgical rest may continue too long.

Take the case of an acutely inflamed joint. Under the discipline of enforced rest, the synovial effusion becomes gradually absorbed; the classical signs of inflammation pass away; and

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when all danger of relapse has finally subsided, an organ of locomotion ought surely to be allowed gradully to return to its duty. But it is the fashion to confine an injured joint so long in wrappings and encasements of an immobile kind, that there is a risk of *quasi*-fibrous ankylosis, relaxation of ligaments, rigidity of tendons, and commencing atrophy of neighboring muscles. Now, in order to prove that these are not imaginary evils, I will relate in the briefest manner three cases selected from several more of a similar kind.

(*a.*) In March 1869, an elderly lady showed me her right knee, enveloped in splints and bandages. Towards the end of 1868, there had been an injury, the nature of which was obscure. She thought that she had struck or twisted the knee. There was little effusion into the joint, but the lower end of the vastus muscle seemed lifted from the femur as by a distended bursa. Hence this muscle acted at a disadvantage, and could not properly extend the leg. There was no sensation which could be called pain; but the stiffness and general uneasiness in the knee disabled her from walking, and *these symptoms supplied the reason why the joint had been kept so long at rest.* The leg was wasted, and there was a general weakness of the whole limb.

(*b.*) In October 1877, a gentleman under thirty years of age consulted me, and gave the following history. In July 1876, while "walking almost at a run in the dark, he fell into an iron harrow, the two knees fitting into a square of the harrow, so that the iron missed the knee-joint and met the limbs on the muscle above and on the bone below." He was not concious of any immediate symptoms, and walked about as usual; but in a few days there came on stiffness, and then pain, the latter being never of great severity. Local means gradually subdued local troubles; and then followed a long period of "irritability" (to use my patient's own word) for which the professional treatment was that the foot was for nine months supported in a sling, the other end of which went round the neck; and at night the knee-joint was packed in splints to prevent movement during sleep. For several months he carefully abstained from bending the leg upon the thigh, because he was emphatically told that continued rest was necessary. One result of this management was that, on the

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least strain or blow, the joint suffered from new attacks of "irritability" and pain.

(*c.*) The wife of a tradesman fell down some steps at the Bristol Railway Station on July 25th, 1878, and fractured the radius of the right arm. The fracture was properly set, and the splints were removed at the end of August. A bandage was then applied for three weeks. On November 1st, a starched immobile apparatus was put on, and allowed to remain for four months. When this patient first came to me, at the end of last May, the hand was nearly useless, simply from atrophy of the muscles. The hand had been imprisoned too long, and no directions had been given to arouse functional activity after its liberation from imprisonment.

Now the memory of some of my readers may recall the practice of the late Mr. Hutton, and the lessons gathered from it by Dr. Wharton Hood. The various conditions of joints which came under Mr. Hutton's treatment were easily classified, and included a large number which were stiff and painful from injury, or had been kept at rest for the avoidance of pain either after some injury to themselves or to the soft parts around them. Summed up in a few words, Mr. Hutton's principle was the rupture of adhesions by manipulative force, guided by skillful leverage. We learned from him that the joints will bear much rougher usage than is sanctioned by professional tradition; but this is not the point now at issue. The sort of case which I have just illustrated stands apart from those which are treated with sudden and violent flexion and extension. In dealing with a joint which has not been materially damaged by inflammation, is not much enlarged, but is now weak mainly because the muscles are weak which ought to move it, a thorough and scientific shampooing (or *massage*) is our therapeutic watchword. The physiology of the joint has to be studied more than its anatomy. The joint is afraid of itself because it is not used; its volitional energies are "hidden under a bushel;" and the owner of it has, perhaps, been scared by the terror of what may happen if he presumed to walk even with the help of crutches. It is satisfactory to know that Dr. Sayre, who is the designer of such an ingenious plan for supporting and rest-

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ing a diseased spine, distinctly says that, in the case of ankylosed limbs, there is "a time for motion as well as a time for rest." *

First, then, we satisfy ourselves that the joint-ends of two bones are not mortared together, and do not require any forcible methods for their separation. A patient may be put partially under the influence of chloroform if necessary, and the capability of a joint to be bent or extended will then be fairly tested, and we shall discover what checks there are to healthy movement. The passive play of a joint tells us that its mechanism is sound; but the question is, What are its vital activities? What can the patient do with it, and how far can he use it? In the three cases which I have briefly delineated, I could see nothing to hinder the limbs from being actively employed. They needed to be brought out of the prison in which they had been immured by professional swaths and bands, and stirred into a more quickened life. They were suffering just as the whole body would suffer if, when clearly recovered from acute disease, it were still compulsorily confined to the bed or the bed-chamber.

The simple plan of treatment which I have for years adopted is as follows: Imagine the knee to be the affected joint, and the foot should rest on a stool or block of wood just within a large shallow open bath, so that the knee is over nearly the center of the bath. A jug, holding about a pint of fluid, is filled with tepid water, and is turned upside down about three feet above the knee, so that the water falls with a splash on the joint; and this is repeated from six to twelve times. An attendant, sitting in front of the patient, then plants a hand on each side of the knee, and, with the thumbs meeting in front, the hands should be moved firmly up and down for eight or ten minutes. The pressure used should be equal and well sustained, not causing any uneasiness, not in the least rough, but such an union of firmness and gentleness as a practical manipulator will easily understand. The thumbs, while agents of moderate pressure themselves, may be made the fulcra for pressing and rubbing the back of the joint.

* *British Medical Journal* August 30, 1879. While writing this paper, the 14th volume of *St. Bartholomew's Hospital Reports* came under my notice, and I have read with pleasure Mr. Willett's paper on Manipulation in Surgical Treatment. The cases which he relates are interesting; but they are examples of the utility of "forcible movement," and, therefore, belong to a different class from my own cases.

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At the end of the shampooing process, the whole joint ought to be dry and warm, and to be immediately wrapped in a covering of oiled-silk lined with wadding, which should be securely fastened and kept on for some hours.

By this easy plan, carried out regularly once or twice a day for several weeks, there is seldom any difficulty in restoring the torpid functions of non-ankylosed joints. Now and then it may be desirable to suspend the friction for two or three days, if the skin show signs of irritation; and in warm weather the impervious pad is scarcely necessary, and might cause an eruption of pustular acne. Medicated lotions or liniments are rarely prescribed; but now and then I introduce under the oiled skin wrap a piece of folded flannel soaked in a mixture of tincture of iodine (half an ounce), glycerine (half an ounce), and soft water (seven ounces). The early douchings are best done with tepid water; but this should be exchanged for cold water as soon as possible, on account of the greater glow and reaction which are afterwards obtained; and, during the summer months, cold water may be used from the first. In all cases, the local treatment should be supplemented by regular passive movements carefully and coaxingly executed, and never exciting pain and fatigue. Sometimes it is only timidity which hinders a patient from (say) pronating and supinating a hand, or flexing and extending an elbow; a group of muscles have to be taught anew. As the lower limbs bear the weight of the body, their voluntary exercise must be deferred until the patient regains confidence and acquires strength.

The next stage of treatment consists in the application of uniform and gentle support. A weak joint requires support when it no longer requires rest. This seems to be the key of the new and important devices of the American surgeons—prolonged pressure without prolonged rest.* The principle is not at all new. Fifty years ago, my father was curing chronic ulcers of the leg by means of firm equal pressure with a domette flannel bandage, telling his patients to walk about as usual. His practice was opposed to the almost universal surgical teaching of the day, reit-

* As a remedy (or preventive) of acute inflammation, pressure has been enthusiastically discussed by Mr. Furneaux Jordan and Mr. Sampson Gamgee.

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erated since with a loudness and constancy almost overpowering;* such surgeons as Dr. Underwood and Mr. Chapman being rare exceptions to the rule. And yet it ought to have been clear that to lay up a limb in idleness admits of the healing of an ulcer by a degree of vital action, which is unable to maintain the permanence of that healing when the limb is restored to use. Similarly, when we have to treat a weak joint, the principle ought to flash upon us with unerring instinct; here is a case, we should say, for applying firm pressure and allowing moderate exercise. For the *ankle*, there is nothing better than an india-rubber bandage, put on from the base of the toes to the upper part of the leg. The bandage is far better than a so-called elastic anklet, because it supports all the muscles which move the ankle; it should make a gentle uniform pressure, without any sensation of squeezing, each fold slightly overlapping the previous one all the way up the limb. The *knee* should be enclosed during the daytime in an elastic support, *which should always be laced*, and which need not cost more than four or five shillings. The lacing allows the degree of support to be varied, according to the feelings of the patient and the amount of exercise he has to undergo. Equipped with this simple apparatus, the lower limb enjoys, as far as the upper part of the knee, a gentle and uniform pressure, which permits useful locomotion within restraining and salutary conditions.

The application of this principle to the *upper limb* is not difficult. A hand and wrist, when embraced by an elastic glove extending a little way up the arm, is competent to perform various feats of dexterous workmanship, which would otherwise soon cause aching and powerlessness. But what need is there for illustrating further such an obvious point of practice? If to be at work is the part which a healthy organ has to play, it is clear that too much rest cannot contribute to the perfection of that work, either in quantity or quality. That special condition which is called the "hysterical joint" is peculiarly amenable to the

* Take at random such a sentence as the following: "Rest is Nature's own remedy, for the application of which she takes no denial; and the practitioner of the healing art takes his cue from this great teacher. If he have an ulcer on the leg to cure, he enjoins rest, and lays up the limb accordingly." (*Medical Times and Gazette*, October 19th, 1867.)

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vigorous and helpful treatment of douching and pressure. For the douching, the use of the Bath waters is much to be commended, as the dynamic stimulus of their heat maintains an after-glow, which is a sign of more vital energy. And hysteria, if it mean anything, means a lack of this energy—a crippled volition, a sluggish blood-stream, and a general undertone of life. The combination of firm pressure and moderate exercise fulfills, in this case, exactly what we ought to aim at: support to the mechanical apparatus of locomotion, and arousing and sustaining of vital function.

I heartily agree with what Mr. Roth has written about the importance of muscle-rubbing in infantile paralysis.* He insists that the superficial and deep layers of muscles should be acted upon successively: firm circular friction is made on the same spot with the ball of the thumb, from left to right and from right to left, about ten times each way; pressure should be used at the same time with the thumb—the thumb being helped, if necessary, with the other hand. The fact is, however, that we ought to vary our manipulations according to the age and sensitiveness of the patient, and the duration of his malady. Thus, we use in one case stroking (*effleurage*), and in another kneading (*pétrissage*); sometimes percussion (*tapôtement*) is most beneficial; and, now and then, it is best to trust to passive motion. The last three methods are particularly adapted to chronic inflammations. Hard kneadings crush and break up old hyperplastic tissue, and the detritus is passed into the lymph-stream; vascular congestions are emptied, and the vaso-motor nerves are mildly irritated. The infriction of medicated substances may be an occasional aid, and among the best are mild iodine ointment and the liniment of iodide of potassium.

Rest and movement are, therefore, complimentary to each other, both in physiology and in therapeutics. The analogy is as close as possible. Alternation of work and rest is the law of the human organism in health, and health could not be preserved without it. Disease may call for a prolongation of the element of rest; but it is a note of clinical insight to discover when the

* *British Medical Journal*, June 14th, 1879.

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disease ends, or when sufficient health returns to justify the usual alternate rest and work. Continued work without rest could not be; rest continued too long is not only conceivable, but it is the object of this paper to illustrate it as one of the present dangers of therapeutic surgery.—*British Medical Journal.*

IMPROVEMENT OF SAYRE'S TREATMENT FOR SPINAL CURVATURE.—Mr. Richard Davy, of London, believes he has an improvement on Dr. Sayre's method of tripod suspension in applying the plaster of Paris jacket in spinal caries. He places the patient in a hammock face downward, arms hanging through slits in the canvas. Extension may then be used or not, according to the views of the surgeon, and the plaster of Paris or other dressing leisurely applied, including the canvas. A free circulation of air is allowed access to the body and the dressing dries rapidly, the patient often sleeping during the time employed. After the drying is complete the spare canvas is trimmed and the patient literally takes up his bed and walks. After reviewing some of the other methods of treating spinal caries according to Sayre's plan, that is of providing an outside support of the body, relieving the weak spinal column, Mr. Davy concludes in favor of his own plan. Aside from the small expense and inconvenience involved, a hammock some times being extemporized from a stout sheet or long night-gown, he thinks suspension not always quite safe in spinal and especially cervical caries, and that in removing the dressing after it causes pain, it is removed too late to avoid mischief. He quotes liberally from the late John Hilton "On rest and pain," and asks if any surgeon after thoughtfully reading Lecure 5, can be ready to fearlessly suspend cases of cervical caries.—*Foreign Cor. American Practitioner.*

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Summary.

Collaborators:

DR. L. W. CASE, DR. R. TILLEY,
DR. BYRON W. GRIFFIN, DR. W. L. DORLAND.

TRANSFUSION IN ANÆMIA.

Dr. DeCailhol, in *Ohio Medical Recorder*, gives a case of transfusion in extreme anæmia after the manner of Dr. Moncoy, the French specialist, using nondefibrinated blood by direct transfusion from the basilic vein of the right arm of the husband of the patient, a strong, well developed man, absolutely free from constitutional taint, into the patient's right arm through the median basilic vein. Two ounces of blood only were transfused, but the pulse instantly rose and the patient felt warmer and more comfortable. Rest and milk diet prescribed, with two ounces of warm defibrinated beef blood, and two ounces rich soup made of beef and pork pancreas every four hours by enema, the stomach tolerating nothing but the milk. In twenty days the operation was repeated and an ounce and a half transfused; treatment continued. The stomach then able to tolerate a small quantity of beef tea to which was added pepsine. A third and last operation (performed with difficulty on account of the patient's marked improvement), occurred in eighteen days. Two days subsequently the stomach tolerated chicken, and she was able, gradually, to use more solid food. In forty days after the last transfusion, the patient started for Europe and returned in two months with plump and rosy cheeks and every appearance of good health.

The doctor remarks in summarizing the case that no iron was given after the first experiment which the stomach refused to

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tolerate, and he firmly believes the cure due to the four and a half ounces of healthy blood transfused. He has known of many unsuccessful cases of transfusion in the United States, which can be attributed to the neglect of various minutiæ in the operation, such as the use of improper or imperfect instruments; the use of defibrinated blood; woman's blood; milk; or after too much manipulation of the vein, all just so many causes of failure. Dr. DeC. has never met with failure in following strictly the rules laid down by the French specialist in his monogram on the subject (which, by the way, Dr. DeC. intends translating for the benefit of the American profession), the most imperative of which are: to use none other than the blood from a perfectly sound man between twenty and forty years of age. The blood must not be defibrinated; it must be transfused slowly, not in a large stream lest the heart be taken by surprise. He uses nondefibrinated blood because the assimilation is to be made at once, without alteration in the blood. He thinks blood loses by the removal of its fibrin the best part of its constituent, and is thereby rendered unfit and even dangerous to the circulation. To the timid operator who fears coagulation of the blood during transfusion, he says no such thing ever takes place if the surgeon is careful and expert and has everything ready at hand; is well assisted and uses a suitable instrument properly handled and not over-heated, (though he does not give the one he uses), as the blood clots sooner by heat than cold. The surgeon must bear in mind that he has from three to four minutes before him to transfuse before clotting will take place, and this is ample time for the transmission of two ounces or more.

As to the defibrination of the animal blood used by enema, it is thus used because it will not keep twenty-four hours; also it is intended for food and does not go immediately into circulation.

WARNING TO TRAVELERS.—A communication which we have received from a traveler describes a severe outbreak of typhoid fever in Switzerland, to be traced, it is stated, as most of such outbreaks are traced, to impure drinking water. This frequent cause of disease to travelers, will, in the end, scare away travelers to a considerable extent from Continental travels, unless the

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local authorities of the principal towns of summer-resort on the Continent manifest a more earnest determination to purify the air, soil, and water, and especially to provide a perfectly pure and undeniable source of drinking water, which is rarely to be found at present in any Continental town or village. Sir Henry Thompson, adverting to this abundant source of danger to travelers, recently recommended that every traveler should carry with him a filter and a teapot, by way of practically abolishing, by personal care, some of the danger of impure water by securing that it should be very thoroughly boiled before being used. Dr. Hermann Weber, whose experience of foreign resorts is perhaps greater than that of any other English authority, has published a similar warning to travelers, and has recommended them to use Apollinaris water whenever it is to be obtained as an undeniably pure drinking water, which would secure them from these dangers; and he has stated that he has known, in more than one instance, when members of the same traveling party have been careful to adopt this precaution, while others have neglected it, that those who adopted such precautions have been saved from typhoid fever, which attacked other members of the party. In the meanwhile, some such precaution for obtaining drinking water of absolute and guaranteed purity must recommend itself as a necessary means of safety. Recent analyses by chemical authorities, of which some of the results are before us, have shown that the water contained in the syphons which are introduced at foreign *restaurants* is not more reliable than the ordinary water supply; indeed, a table before us, to which, perhaps, we shall subsequently have to refer, indicates that, in one great foreign city at least, the water in the syphons is very much more impure than even the ordinary city drinking water, being in some cases little better than diluted sewage water. It appears that the manufacturers of these aërated waters in foreign syphons are by no means very careful from what kind of surface wells they draw their supply, or how they purify their water; and on the whole, the danger of drinking the aërated water of syphons is, unless the quality be definitely ascertained, greater even than that of drinking the ordinary impure water. It is quite time that foreign authorities should turn more serious attention to this subject. The evidence

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of the carriage of typhoid poison by contaminated water, overwhelming as the demonstration has been in this country, is by no means sufficiently appreciated abroad; indeed, the subject has been so imperfectly treated, that some foreign authorities profess absolute ignorance of facts which may now be taken as among the best established of modern times. It is well, until they have become more enlightened, that travelers should regard drinking water with precaution, and should be satisfied in some way or other that the table-water they drink is of absolute purity; and such assurance is best obtained by confining themselves, when traveling, to the use of a natural mineral water, suitable for table purposes and of undoubted pure origin.

—*British Medical Journal.*

NOTES ON RENAL AND URINARY PATHOLOGY.

1. "RENAL CALCULI; Their Causation, Character, Symptoms, Treatment and Prevention." By ROBERT L. WEIER, M.D., etc. (*N. Y. Medical Journal*, August, 1880.)

Dr. Weier presents one item of interest in this lecture, namely, the presence of the "submorphous" form of oxalate of lime, and of the urates in the nuclei of urinary calculi, and the fact that "these submorphous crystals are deposited under certain special conditions, viz.: the presence of a colloid material, which may consist of mucous or some other organic substance, but * * * this is an essential element in the formation of stone." As to the prevention of renal calculi, the essential thing, according to Dr. Weir's philosophy, is to secure and maintain proper dilution of the urine.

2. "A CLINIC ON CASES OF NEPHRITIS," etc. By FRANCIS DELAFIELD, M. D., Professor, etc. (Detroit *Lancet*, August, 1880.)

Dr. Delafield presents a case of nephritis in which he regarded it as impossible to make a certain differential diagnosis. The patient was a "young man," who had been "sick for a year, and the prominent features of his illness have been the existence of a moderate amount of dropsy, which is now diminishing, and a certain amount of anæmia." The diagnostic problem was to decide as between "chronic diffuse nephritis" and "chronic

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parenchymatous nephritis," which, as the case then stood, was regarded as impossible. Dr. Delafield, however, was inclined to regard the case as one of diffuse nephritis, because "the small number of casts in proportion to the albumen would rather point in this direction. When parenchymatous nephritis has lasted for some time, the proportion is rather the other way: the patients have albumen in the urine, but they also have casts, and casts in considerable numbers, and the casts are apt to be a more constant feature than albumen; whereas, with diffuse nephritis, the conditions are the other way: the albumen is apt to be more constant and in larger quantity than the casts." (We believe, however, that the "*architecture*" of the casts is a more reliable guide than that indicated by Dr. Delafield, although that is by no means without value.)

3. "ADDISON'S DISEASE." By THOS. F. ROCHESTER, M.D., Professor, etc., University of Buffalo. (*Buffalo Med. and Surg. Journal*, August, 1880.)

Prof. Rochester relates the history and presents the results of post mortem examination of three cases of morbus Addisonii. In neither case was the morbid anatomy by any means confined to the supra renal capsules; wherefore Prof. Rochester concludes with Martineau, "that the malady of Addison should not be considered as a pathological entity," and that "the question of individual pathological identity still remains open." (We believe that this question is no longer an "open" one; exactly *what* Addison's disease is must be regarded as an open question, but it is certainly something more than disease of the supra renal bodies.)

4. "INDICAN IN HEALTH AND DISEASE." By H. N. HEINEMAN, M.D., Assistant to Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York. (*Archives of Medicine*, August, 1880.)

Dr. Heineman presents a very valuable paper on the physiological and pathological relations of indican. In an analysis of 149 cases of normal urine by Hoppe-Seyler and himself, indican was present in 116. In diseased states, indican was found present as follows:

Circulatory system.—Of five cases of cardiac disease three

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exhibited a normal amount, two a moderate and marked increase respectively. In one case of aneurism, indican was absent.

Respiratory system.—Of six cases of pleurisy, pneumonia and empyema, two had a normal quantity, two a moderate and two a marked increase. Senator states that in pneumonia and pleurisy he has found a moderate increase.

Of thirteen cases of acute and chronic phthisis two showed marked, three moderate increase, five a normal or slight amount and three absence. Hennige states that the condition of the intestine, whether diarrhœa be present or not, determines the increase in phthisis. Senator, with whom I agree, states with or without diarrhœa there is a moderate or marked increase.

Digestive system.—In three cases of stomach dyspepsia and one of dilatation there was marked increase. In a few cases of ulcer of the stomach, Senator has met with moderate increase. In numerous cases (number not stated) of gastro-duodenitis, Hennige found very marked increase. In one case I have found absence of indican and in three marked increase. In five cases of diarrhœa, there was marked increase in all. Of three cases of dysentery, two exhibited a slight amount and one none; of four cases of chronic constipation, two exhibited absence, two marked increase. Senator, and with him, Hennige, Jaffe, Edlefsen and DeVries, find that in simple constipation from atony, without invagination, only a slight amount of indican is present. The result in two cases met with by me is at variance with this. In one case of intussusception the increase was very marked. In seven cases of peritonitis there was marked increase, and this was greatest in the acute cases, and in those which were general rather than those that were localized. In four cases of intestinal hæmorrhage there was marked increase. In one case of cholera morbus there was marked increase. Senator, Wyss and Gubler have found marked increase in this, and in cases of Asiatic cholera.

Liver.—Of nine cases of cirrhosis, two only exhibited a moderate and marked increase respectively, two were normal, and in five there was none.

Genito-urinary system: Kidneys.—Of sixteen cases of Bright's disease, ten presented a marked and four a moderate increase, in two indican was absent.

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Senator states that he has found no increase in any except cases of atrophied granular kidney. Heller, Scherer and Virchow had previously reported increase in indican in kidney lesions other than the one just mentioned. My own cases confirm this latter view. Of seven cases of Addison's disease, three had moderate and four marked increase.

Bladder and Urethra.—Of twelve cases in which pus was found in the urine in connection with urethral stricture, cystitis and gonorrhœa, seven gave moderate and one marked increase, three normal or slight amount, and one none.

Uterus and Ovaries.—One case of uterine disease had marked increase; one case of pueperal fever, normal or slight amount; in two cases of ovarian tumor none, and in three cases of pregnancy one had marked and two moderate increase.

Osseous system.—Of nine cases of arthritis, caries and necrosis, four had moderate increase, three normal or slight amount and four none. Of six cases of suppuration and cellulitis unconnected with bone disease, three had moderate increase, two normal amount and one none.

Nervous system.—Indican was absent in one case of apoplexia meningea; markedly increased in one of prog. muscular atrophy, in one case of insanity and epilepsy. In three cases of paraplegia, two had marked increase and one normal amount. In one case of sciatica the quantity was normal. In two cases of cerebral tumor and one of hypochondriasis and nocturnal emissions there was absence. Several authorities claim that spinal irritation is generally accompanied by an increase of indican.

General diseases.—Of five cases of alcoholism two had moderate and one marked increase and two were normal.

Of twenty cases of rheumatism eight of ten of acute disease were normal, one had marked increase and one none. In four of ten chronic cases the quantity was normal or slight, markedly increased in four and moderately in two.

Of nineteen cases of malaria six were normal, five had moderate and one marked increase and seven had none. Of six cases of typhoid fever one had moderate and five marked increase. Hennige has found the increase in typhoid fever dependent upon the presence of diarrhœa. Senator and I have found it independent.

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In one case of convalescence from yellow fever the quantity was normal. Of ten cases of constitutional syphilis four had moderate and one marked increase, two were normal, three had none.

Of six cases of chlorosis three had moderate increase and three normal or slight amount. There was a normal or slight quantity in two cases of Werlhof's disease, marked increase in one case of progressive pernicious anæmia and absence in one case of leucocythæmia. In three cases of trichinosis and two of lead, poisoning there was marked increase. In one of chronic arsenical poisoning, absence.

In twenty-one cases of carcinoma interna there was very marked increase in nineteen and absence in two.

In three cases of abdominal lympho-sarcoma and in one case of osteo-sarcoma there was marked increase in all.

Dr. Hineman arrives at the following conclusions:

Conclusions.—Indican is only exceptionally absent in health. It may vary in quantity in the healthy individual, generally being small in amount, but occasionally as marked as in disease.

Certain diseased conditions tend to produce a decided increase.

The most marked increase is obtained in those diseases which affect the alimentary canal, and more especially the small intestine, whether they be local or general diseases with local lesion. Among these are dyspepsia, gastro-duodenitis, chronic constipation, intussusception, diarrhœa, peritonitis, cholera, lead poisoning and typhoid fever.

In diseases causing inanition, as phthisis and other prolonged suppurative diseases, as caries and necrosis, marked increase is found.

Among the diseases producing altered blood state, some, such as malaria, syphilis, rheumatism and alcoholism, progressive anæmia and chlorosis, although *always* causing the most profound blood-changes, *do not always* effect a decided increase. This is a singular exception, to which Senator has called attention, but the investigations are not as yet sufficiently numerous to draw conclusions.

Certain nervous disorders, as insanity, epilepsy, Addison's disease, progressive muscular atrophy and paraplegia, cause marked increase.

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Disordered function of the kidneys, as in chronic Bright's disease, caused marked increase.

Internal malignant tumors, as carcinomata and sarcomata, cause increase most markedly and constantly of all.

The explanation of the cause of the increase in various diseases is not as yet adequate to satisfy all cases.

The experiment of Jaffe of ligating the small intestine, by which the amount of indican excreted was increased, demonstrates that conditions retarding peristalsis and favoring the absorption of indol, cause an increase of indican. This reasonably explains the result in cases of peritonitis, constipation and similar disorders.

How, satisfactorily, to account for the result in other diseases must, I regret to state, still remain unanswered.

The theory of Hennige that other diseases act through the nervous system and produce a change in the nature of the pancreatic secretions, and thus cause an increase, is effectually answered by Senator. He calls attention to the fact that indol, the mother substance of indican, is a product of decomposition. Furthermore, Brieger has shown that indol is produced without the presence of pancreatic juices.

Possibly in changes in the circulating fluid, rather than in local disturbances of the system, we may find the reason for the increase in the remaining diseases.

5. "FATAL CASE OF AGUE WITH DELIRIUM AND COMA DURING THE PAROXYSMS DUE TO CIRRHOTIC KIDNEY. By WM. RUSSELL, M.B., ED., late House Physician and Pathologist to the General Hospital, Wolverhampton. (*Edinburgh Medical Journal*, August, 1880.)

The following case came under my notice when in Perth as *locum tenens* for Dr. Stirling, and is sufficiently interesting and uncommon to warrant a few notes of it being recorded:

Mrs. I., aged sixty-nine, was seen by me on the night of 4th October. She had traveled from Glasgow that day, and was supposed to be in fair health when she left; she had, however, been under treatment for what was belived to be a hysterical condition. Since her death I have received particulars of the case

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from her Glasgow medical attendant. She had returned from America some three weeks before I saw her, and on the passage home had shown strange mental symptoms. During the first week or two of her stay in Glasgow she was said to have a regular nocturnal "shivering fit," after which she used to wander about in her night-gown. Some time after this she was seen by her medical attendant in one of her "shivering fits," the seizures at this time taking place in the forenoon instead of during the night, when he found her pulse quiet, her surface temperature feeling normal, and, when interested in conversation, that the shivering ceased. He considered the possibility of the case being ague, but was satisfied to the contrary. The urine was examined, and contained no albumen.

When I saw her, she complained of pain and confusion in her head, of frequent defecation, and of only passing a few scybala at a time. She was restless, had a dreamy and somewhat wearied expression, answered questions rationally, but did not recognize the friend she traveled to Perth to see. I ordered some bromide of potassium, and she passed a comfortable night. On the morning of the 5th she seemed much better and more collected, and the bowels had been freely moved by castor oil. In the morning I was summoned to see her, and found her tossing about in bed, occasionally groaning and moaning loud enough to be heard in the houses on the opposite side of the street. She was quite unconscious, and passed urine and fæces into the bed. The pupils responded to light. Her pulse was beating from 130 to 140, the heart's action being very tumultuous and thumping; the temperature in the axilla was 105°. Large doses of chloral hydrate and bromide of potassium quieted her. In the evening Dr. Bramwell kindly saw her in consultation with me. By that time her temperature had fallen to 102°, and the pulse to about 100, and she was regaining consciousness. From the existence of subcrepitant râles all over the left chest, it was suggested she had been knocked down by pneumonia, especially as we ascertained she had had a "shivering fit" during the afternoon. She was put on 5 grs. of quinine every six hours. On the morning of the 6th she seemed quite well again, her temperature being normal, and her pulse 84. During the day Dr. Bramwell saw her with me, when

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we congratulated ourselves and her on the marked improvement in her condition. In the evening I was again called to see her, and found her exhibiting the same train of nervous symptoms as on the previous evening. This annihilated our pneumonia theory. The temperature was 103°.5, and the pulse about 130. On investigation I found she had had another rigor, that with the onset of the rigor she became restless, and from that time the nervous symptoms had increased until she became unconscious, tossing about and moaning loudly from time to time. The initial symptoms so resembled ague that I examined the spleen and found it greatly enlarged. This new light on a case that had hitherto been obscure was satisfactory; but I was not satisfied that this was sufficient to explain the extreme severity of the cerebral symptoms, which seemed as out of keeping with an ague, with a temperature of only about 104°, as I believed them to be inexplicable by a pneumonia in a person of her years. I purposed to examine the urine when she became conscious, as I had no doubt she would the following morning. The coma, however, deepened, and she died that night.

By the kind influence of her Glasgow medical attendant the friends gave permission for a post-mortem examination. Dr. Gillespie, house surgeon to the Perth Infirmary, kindly assisted me. The *dura mater* was adherent to the calvarium, and had to be removed with it. The *brain* was hyperæmic, as shown by the size and number of the *puncta cruenta*, but was otherwise normal. The *heart* was large and fatty. The *left lung* was bound by old adhesions, and both it and its fellow were œdematous, but neither presented a trace of pneumonia. The *spleen* was much enlarged, measuring about 6 in. by 4 in., dark and pulpy. The *liver* was normal. The *kidneys* were small and markedly cirrhotic, no part of their capsules stripping off without lacerating their substance.

Although we tolerably frequently have the opportunity of seeing cases of ague in this country, the above case was at first peculiarly difficult, from the meagre and misleading history we possessed at the time; but the point of real interest in the case was the prominence and severity of the nervous symptoms, which at first gave one the idea of being due to active cerebral mischief,

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nd was only given up when the first lull came; then the ossibility of their being due to acute pneumonia was contemplated; nd, at last, when the true nature of the seizures was evident, and ith the light of the autopsy, we see the important *rôle* played by e state of the kidneys in producing cerebral irritation, manifested y restlessness and delirium during the course of the ague paroxysm, nd afterwads a coma, which was ultimately fatal. I have seen atients suffering from other diseases in which a cirrhotic con- tion of kidney intensified the cerebral symptoms, and it is a mplication I have come to regard tentatively as explaining the verity of the nervous symptoms in many cases in which we are t to give the more prominent disease the onus of their severity, hen in reality the more evident affection is quite insufficient to xplain such intensity.

The relation between this case and what is described as malig- ant or pernicious ague is of some interest; for, even in the ast, malignant ague seems to be very uncommon, and, when it oes occur, kills early, presumably by the intensity of the poison, that I should be inclined to question the possibility of our eing such cases at home.

While we have no doubt that the pathological conditions of the idneys plays an important part in the causation of the symp- oms present in Mr. Black's case, it seems to us by no means ertain that the "delirium and coma" are wholly due to "cir- hotic kidney," for the reason that the post mortem revealed uite too many other and important pathological lesions.

I. N. D.

GLYCERINE IN FLATULENCE, ACIDITY, AND PYROSIS. SIDNEY RINGER, M.D., and WILLIAM MURRELL write to the *Lancet* as follows :—

An old gentleman, who for many years suffered from distress- ng acidity, read in a daily paper that glycerine added to milk revents its souring, and he reasoned thus: "If glycerine pre- ents milk turning sour, why should it not prevent me turning our?" and he resolved to try the efficacy of glycerine for his cidity. The success of his experiment was complete, and when- ver tormented by his old malady he cures himself by a recourse

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to glycerine. Indeed he can now take articles of food from which he was previously compelled to abstain, provided always that he takes a drachm of glycerine immediately before, with, or directly after his food. He recommends this treatment to many of his friends (sufferers like himself,) and one of these mentioned the above circumstances to us.

We have since largely employed glycerine, and find it not only very useful in acidity, but also in flatulence and pyrosis, and that it sometimes relieves pain. We meet with cases where flatulence, or acidity, or pyrosis is the only symptom, but more frequently these symptoms are combined. Some patients rift up huge quantities of wind without any other symptoms than depression of spirits; in others we get flatulence and acidity, one or other predominating; and we meet with others who suffer from acidity, flatulence, and also pyrosis. In all these various forms we find glycerine useful, and in the great majority of cases very useful. We do not mean to say that in all cases it is superior to other remedies for these complaints; indeed in several instances it has only partially succeeded, where other remedies at once cured. On the other hand, in some cases glycerine speedily and completely succeeded, where the commonly-used remedies for acidity and flatulence completely failed. We do not pretend to estimate its relative value to other remedies; we are only anxious to draw attention to its virtues. Gas is in some instances formed in the stomach, in others in the large intestine, in some patients in both. Our observations were made on stomach flatulence, and as glycerine is so readily absorbed we should hardly expect that it would influence the formation of wind in the colon, except given in large doses, and when it acts as a slight laxative, and so expels the putrefying mass which forms the wind. In some cases it removes pain and vomiting, probably like charcoal, by preventing the formation of acrid acids, which irritate delicate and irritable stomachs.

We suggest that it acts by retarding or preventing some forms of fermentation and putrefaction. J. Mèkulics (*Archiv. f. Klin. Chir.*) shows that glycerine prevents putrefaction of nitrogenous substances, as of blood diluted with water, which speedily decomposes at the ordinary temperature of the air. Two per cent. of

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glycerine retarded decomposition for twenty-four hours; ten per cent. for five days. If the fluid were placed in the hatching oven, then two per cent. retarded decomposition for several hours, ten per cent. for forty-eight hours, and twenty per cent altogether prevented putrefaction. He also proves that glycerine destroys bacteria, and prevents the formation of septic poison, though it will dissolve and preserve the septic poison itself.

Dr. E. Murk (*Virchow's Archiv.*) finds that two to three per cent. will delay lactic fermentation in milk eighteen to twenty-four hours. Burnham Wilmot, 1860, says glycerine preserves meat so that after several months' immersion the meat is sweet and can be eaten; and Demarquay proves that both animal and vegetable substances may be kept for six weeks to two months by glycerine.

Glycerine, however, does not prevent the digestive action of pepsin and hydrochloric acid; hence, while it prevents the formation of wind and acidity, probably by checking fermentation, in no way hinders digestion. We administer a drachm or two drachms either before, with, or immediately after food. It may be given in water, coffee, tea, or lemon and soda-water. In tea and coffee it may replace sugar, a substance which greatly favors flatulence, as indeed does tea in many cases. In some instances a cure does not occur till the lapse of ten days or a fortnight. —*Canada Medical and Surgical Journal.*

TREATMENT OF LEUCORRHŒA IN LITTLE GIRLS. (*Bouchut, Paris Méd and Le Praticien*, No. 17, p. 202.)

The author denies that the leucorrhœa is produced by vaginitis or metritis, but is always the result of vulvitis, and it is the latter that should be treated. He therefore rejects vaginal injections which are difficult to make in little girls, as well as repugnant to the mothers, and simply treats the vulva.

The treatment is both local and general.

Locally.—Extreme cleanliness of the diseased parts, obtained by means of repeated lotions with bran water of walnut leaves, Goulard's water, etc. 2nd, *modify the diseased surfaces.* For this purpose the means are numerous, corrosive sublimate (10 centigr. to 300) in sitz baths or lotions; carbolic acid, 5 to 1000;

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coal tar diluted one-half and finally cauterization with a solution of nitrate of silver (20 centigr. to 30 grams) are useful. Between the lotions it is well to apply a pledget of lint saturated with coal tar or an ointment of red precipitate between the labia. This, kept in place by a pad, protects the labia and surrounding parts from irritation from the pus which is often very abundant.

Internally the author recommends for strumous patients cod-liver oil and quinine, and for herpetic patients arsenic. The disease is often rebellious to treatment.

FROM A PAPER ON THE CONTAGION OF CONSUMPTION. By JAMES T. WHITTAKER, M.D.

The whole question of the contagion of consumption, *i. e.* of the specificity of the tuberculous virus, hinges upon its inoculability, and of this capability there is now scarcely room for doubt. Harnsell (Graefe's *Archiv.*, 25, part iv, 1879) mentions cases of tuberculosis iridis, as reported by Perls, Manfredi, Koester, Leber, Samelsohn, Sattler and Angelucci, and adds three cases from his own (Göttingen) clinic. He thus establishes the fact of infection of the iris. After mentioning the experiments of others in direct and indirect inoculation of the eye with tuberculous matter, the author then proceeds to detail his own. He found that the insertion of tuberculous matter into the anterior chamber of the eye invariably inoculated the iris. The cornea and conjunctiva, moreover, could be inoculated directly, and in all cases the tuberculous matter inserted "disappeared by the third day, and after from fifteen to twenty-three days of incubation tuberculous collections showed themselves."

The fact that these collections or masses were tubercular was proven after the method of the chemists in recognition of the action of a poison, that is, by insertion into the bodies of other animals. Particles or portions were put into the abdominal cavities of dogs and guinea-pigs. The dogs died of suppurative peritonitis. The guinea-pigs were kept under observation for three months and then killed, when "all the internal organs and the skin were found, without exception, to be filled with deposits of miliary tubercles." Cohnheim tried in vain to excite tubercles in the iris "by introducing into the anterior chamber portions of

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non-tuberculous animal tissues, of the most varied kind," and Harnsell failed to inoculate tuberculosis with fresh trachomatous matter. "On the other hand, the tuberculous matter used, when introduced into the peritoneal cavity, excited, in turn, general tuberculosis of all the organs."

"*So in Tuberculosis*," as Cohnheim concludes, "*everything depends upon the virus. We discover at all points the closest analogies between tuberculosis and syphilis. Both require, above all things, infection, transmissibility of the disease from person to person.*"

This comparison between tuberculosis and syphilis is exceedingly happy. The conduct of no other infectious disease so closely resembles that of tuberculosis, or so completely clears up the perplexities which beset the disease. To compare tuberculosis with small-pox, for instance, would be fatal to our understanding of either, while tuberculosis and syphilis present so many analogies as to have even led some pathologists to regard one as a form or a product of the other, a conception which is, of course, radically wrong.

Tuberculosis, like syphilis, depends then upon a specific virus which must reach a mucous membrane or a broken surface, to be absorbed and induce the disease. Laennec was convinced that he had inoculated himself once with tuberculosis, just as many an unfortunate practitioner has since inoculated himself with syphilis, by a wound from a saw in making a post-mortem examination upon a phthisical patient. But more fortunate than they, he succeeded in destroying the tuberculous nodule at the start with the butter of antimony.

Syphilis, for the most part, reaches the body through the organs of generation, while tuberculosis is breathed, for the most part, into the lungs, or is swallowed with food, as with milk, the most frequent cause of tuberculosis in childhood.

The first symptoms of each affection are local; in syphilis, at the genital organs, in tuberculosis, at the lungs or in the intestinal canal. From the point of absorption the disease next invades the lymph glands in the nearest vicinity; in syphilis, the glands in the groin, in tuberculosis, the bronchial and mesenteric glands. Passing these glands, or being absorbed into the blood, both diseases become general.

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Both diseases may be transmitted by heredity, and both diseases, thus transmitted, may lie latent for a time, for a longer time in tuberculosis, to develop at a later period. During the latent stages, both diseases impair the processes of nutrition, and deform the development of the body. The victim of latent syphilis has notched teeth, falling hair, derangements of digestion, etc. The victim of tuberculosis shows the aspect of scrofula, or has the sunken, elongated chest, ossified ribs, the thorax paralytica; he has also clubbed fingers, and the other well known signs which constitute the *phthisical habitus*. This habitus is therefore an effect and not an inviting cause of the disease. An individual thus affected is said to have the tuberculous diathesis, just as an individual once syphilized has the syphilitic diathesis. Either disease may manifest itself in its well known symptoms at any time. But latent or manifest, the disease is present, just the same, all the time.

There is, then, no such thing as a predisposition to either disease. Either a man has syphilis or he has it not. Either a man has tuberculosis or he has it not. One man is not more predisposed to either disease than another. Syphilis affects one individual more than another, because its virus finds a better lodgment upon his mucous membranes. Tuberculosis finds also, fortuitously, a better nidus in one case than another. The virus of tuberculosis is lodged in one case and not coughed up, just as in syphilis the virus is secreted and not washed off.

Both diseases may disappear from the body entirely, and a perfect cure may result, but it is impossible to state when such complete eradication has taken place. In syphilis the capability of reinoculation furnishes the only definite information in this regard, a method of trial not so likely to be undertaken in tuberculosis. As a rule, however, neither disease does disappear from the body entirely. What Fournier said of syphilis is true also of tuberculosis, viz., that the diathesis is a period of health interrupted by explosions of the disease. Cazenave said long ago that one does not recover from the syphilitic diathesis, but lives with it as with the lymphatic temperament, and an older writer observed that syphilis strikes with its victims "a truce oftener than a peace."

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Both diseases may, and for the most part do leave in the body centers of future infection. From any chancre, plaque, gumma, or other deposit of syphilis, reabsorption may take place at any time, and reinfection with syphilis, or, better, reappearance of external signs. So, from any caseous nodule wherein the tuberculous virus is locked up in temporary innocence, absorption may take place under favoring circumstances and a new outbreak of tuberculous symptoms appear, the quantity of virus thus set free, determining to great extent, perhaps, the virulence of the symptoms. While the virus is thus locked up the disease is latent, when set free, it is manifest.

While it is true, therefore, of both diseases that they may be inherited, that is, that both syphilis and tuberculosis may affect the ova and spermatozoids as well as every other organ and tissue of the body, it is also true of both diseases that they are in the vast majority of cases not inherited, but acquired. A thorough sifting of the cases will show this statement to be as notoriously true of tuberculosis as of syphilis. So soon as the inoculability of tuberculosis is established, the fact is also established that the disease is acquired oftener than inherited.

With the general recognition of these views, we shall cease to hear of bad air and bad sanitation as direct factors in the disease. The writer of this article once went so far as to develop tuberculosis from depressing mental emotions. Bad air, food or drink, are productive of tuberculosis only when they contain the virus of the disease. In other respects they are no worse for tuberculosis than for any other disease. Drinking water contaminated with sewage does not produce typhoid fever unless the sewage contain the typhoid germ. So, contaminated air is productive of tuberculosis only when a cause of its contamination is tuberculous virus. Drs. Cotton and Edwards, of the Brompton Hospital for Consumptives, object to the contagiousness of consumption on the ground that but one nurse and one servant died of phthisis in that institution in a period of twenty-one years. Dr. Cotton went so far as to say that "a residence in the consumptive hospital and long continued working in its wards is a very good way, indeed, *not to catch the disease.*" It must be remembered, however, that few institutions were in such perfect

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sanitation, especially as regards ventilation, as Brompton Hospital. Anyhow, the statement does not count for much less than to show how close an association is necessary to contract the disease. For the same observation has been made with reference to typoid fever, an infectious disease beyond a doubt. Liebermeister states that up to the year 1865 he had never seee in the hospitals which he visited (Greifswald, Berlin, Tübingen) "a single hospital patient, physician or nurse, attacked with typhoid fever, although such cases are placed in the general wards." And the same author quotes from Murchison to the effect that "during a period of fourteen and a half years in the London Fever Hospital, 2,506 patients were treated with typhoid fever, and during that time only eight cases originated in the hospital."

The specificity of the tuberculosis virus is determined in a higher school, and by means more in accord with the principles of science than clinical observation. And the recognition of it clears the field for prophylaxis and opens up a new and more promising outlook for the therapy of the disease.

Dr. Stuart Eldridge, Gen. Hospital, Yokohama, Japan, calls the attention of the profession to the great advantages of Asbestos roofing felt as a material for plastic splints and other molded apparatus. In a brief statement he gives the qualities in which it excels those now in vogue. 1. It is rendered perfectly soft and flexible by brief immersion in water of a temperature easily borne by the hand. 2. It retains its plasticity long enough to allow of careful adaptation, while its stiffness is instantly restored by a dash of cold water. 3. While soft it does not change dimensions, so often the case with gutta percha. 4. It remains unchanged after indefinite exposure to the heat and moisture of the body, nor is it affected by any of the ordinary lotions applied in cases of wound or fracture. 5. It is perfectly antiseptic on account of the coal tar with which it is saturated, a quality which would of itself commend its use in compound fracture. 6. It is so cheap that its cost is hardly worth mentioning even in large institutions.—*N. Y. Med. Record.*

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Obituary.

DIED, at 9:30 a.m. of August 17th, 1880, at his residence, 291 Huron Street, Chicago, FRANK HOWARD DAVIS, M.D., aged 32 years, two months and twelve days.

The deceased was born in the city of New York, June 5, 1848, was taken by his parents, Nathan S. and Anna Maria Davis, to Chicago in September, 1849, where he lived until his death. He received the earlier part of his education in the select schools of this city, and entered the University of Michigan with the intention of completing a full classical course of study. But frequent interruptions from ill health finally caused him to relinquish this course at the end of the sophomore year, and to turn his attention to ordinary business pursuits. In a few months, however, he returned to the office of his father and commenced a dilligent study of medicine in the spring of 1867. In the autumn of the same year he matriculated in the Chicago Medical College, and faithfully pursued the systematic graded course of that institution until near the close of his second college year, when, on account of some threatening pulmonary symptoms, he went to Europe, where he remained sixteen months. While absent he continued to devote a part of his time to the study of medicine, a part to the acquisition of a more practical knowledge of the German and French languages, and the rest to general science and observation. On his return home he immediately resumed his regular course of study in the Chicago Medical College and Mercy Hospital, and graduated at the end of his third college year, in March, 1871; receiving the prize for the best thesis presented to the faculty by the class of that year. Immediately after graduation he again visited Europe, accompanied by his

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younger brother, and spent a few months in the hospitals of Vienna, giving more special attention to the diagnosis and treatment of diseases of the air passages. Returning home the latter part of July of the same year, he entered at once upon the general practice of his profession in this city. Invigorated by his two trips to Europe, he was enabled to pursue the practice of his profession, uninterruptedly and with a gratifying degree of success, until June 3, 1880, when he was suddenly arrested by the sickness that ended in his death at the date already given. During this brief professional career of only nine years, he had not only laid the foundation for a lucrative practice and attached to himself the fullest confidence and affection of a wide circle of friends, but he had also equally won the respect and esteem of the members of his own profession. As proof of the latter, and also as an indication of his activity in the promotion of both the social and scientific interests of the profession it may not be inappropriate to mention that he was an active member of the American Medical Association; the Illinois State Medical Society; the Alumni Association of the Chicago Medical College; the Chicago Medical Society; the American Laryngological Association, and the Association of American Medical Editors, to the transactions of all of which he contributed papers of more or less value, and in the three last of which he held official positions. He was also an active member of the medical staffs of the Mercy Hospital and of the South Side Free Dispensary. Soon after entering the profession he became associated with his father as editor of the CHICAGO MEDICAL EXAMINER, which position he continued to hold until that periodical was transferred to the Chicago Medical Press Association, and united with the CHICAGO MEDICAL JOURNAL. Yet in the midst of all his professional engagements he found time to cultivate the broader domain of general science, and early became an active member of the Chicago Academy of Sciences, of which he was Librarian at the time of his death. If we turn for a moment from his professional career to his private and domestic character, we shall find in it nothing but comfort and consolation to the sorrowing ones he has left behind him. Naturally timid, sensitive and affectionate, he early imbibed a pro-

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found respect for the precepts and doctrines of the Christian religion, and after arriving at mature years, became an acceptable member of the Methodist Episcopal Church; and though some portions of his last illness were accompanied by the most intense bodily suffering, yet no word of murmuring against Providence escaped his lips. For three weeks before his death he became fully conscious of the probable fatal result and expressed his readiness to go, with the utmost confidence in his future welfare. On the 13th of April, 1875, he was united in marriage to Miss Anna Smith Marcy, the accomplished daughter of Prof. Oliver Marcy, of Evanston, the acting president of the Northwestern University, and entered at once upon the enjoyment of that domestic happiness which can be found only in a home of virtue, intelligence and affection. In due time two children, a son and daughter, were added to the family circle, and, with the mother, are now left to mourn their great loss. The chief cause of death, as shown by a post mortem examination, was an acute pyæmic or suppurative inflammation of the left kidney, accompanied by so persistent a reflex irritation of the stomach, that during the last three weeks of life, his sole dependence for support was on nutritive enemas. The deceased was an industrious student; a careful and accurate investigator; a ready writer; with a rare mechanical genius and fine appreciation of art. The latter qualities were displayed in the devising and modifying of instruments for his own use in the favorite department of his profession, and in the modelling of a very accurate life size bust of his father.

TO REMOVE PLASTER OF PARIS FROM THE HANDS.—Dr. Wilcox, surgeon, U. S. A., says that a little bicarbonate of soda or potassa, added to the water in which the hands are washed, after applying plaster of Paris bandages, immediately removes the unpleasant feeling left by the plaster.—*Toledo Med. and Surg. Journal.*

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ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Sept. 6 and 20.
West Chicago Medical Society—Mondays, Sept. 13 and 27.
Biological Society—Wednesday, Sept. 1.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde; 3 p. m., Medical, by Dr. Bridge.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLI.—OCTOBER, 1880.—No. 4.

Original Communications.

ARTICLE I.

TRACHEOTOMY IN CROUP AND DIPHTHERIA, WITH CASES.

By E. W. LEE, M.D., Surgeon to Cook County Hospital, and CHRISTIAN FENGER, M.D., Surgeon Pathologist to Cook County Hospital, Chicago.

The main object in writing this paper and reporting these cases is to contribute our mite toward rescuing this operation from the doubtful position it occupies as a remedial measure and placing it in the position it merits.

Most authors in writing on this subject, mention the operation as one that may be done under certain circumstances and admit that lives possibly have been saved by it that otherwise would have been lost. To Trousseau belongs the credit of reviving and, in France, popularizing the operation. His unfailing faith through a series of years and the magnificent success attending his efforts are worthy of emulation for all time. It may be said that in his enthusiastic advocacy of it he resorted to the operation in many cases that would otherwise have recovered and hence his large

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average of successes. Admitting this, it proves the dangers following the operation are not so grave as had been supposed, and also that the earlier it is resorted to, the greater the chance of a successful issue. Vogel, in his work on Diseases of Children, says in the article on Croup (chapter 4, p. 259): "I have never yet seen a child recover from the genuine fibrinous croup, but from the diphtheritic form, three children out of twenty or twenty-five have recovered." Further on, p. 267, in speaking of tracheotomy as a remedial measure he says: "Let us assume that all the children operated on had genuine croup, the rate of recoveries (twenty-two per cent.), is nevertheless an extremely unfavorable one, and especially since the greater portion of the children operated on suffered from the milder diphtheritic forms." He also says he neither advocates or opposes the operation when proposed by other physicians.

Barclay in his article in Holmes' Surgery, on Croup and Diphtheria, says: "English medical men seem now very generally to incline to the opinion that the operation if not to be recommended, is at least justifiable, as it does not materially increase the risk of a fatal issue, and unquestionably in some cases, offers the only chance of recovery, *but to be successful it must be performed at an early period of the attack.* The italics are ours. Dr. E. H. Bennett, of Dublin, Ireland, says (in the Dublin *Journal of Medical Science*, March, 1880, p. 250), in relating a case where he had operated, "I make no apology for bringing forward this case, because most of the members know that tracheotomy for croup is rarely performed in Dublin, in consequence of the objections to the operation put forward by the late Mr. Porter, and the result of his strong objections to it has been that very few of us have had any experience of the operation." After alluding to Mr. Spence's experience, "ninety-five cases, recoveries one in three," he concludes: "Even with this condition of affairs I think we should set aside the opinion of Mr. Porter, and hold the operation to be admissible."

French surgeons, as a rule favor the operation, and in consequence of its timely performance have a high average of successful cases. In America the operation was was not much in vogue till the last decade. Meigs and Pepper, in 1870, Philadelphia, consistently advocated the performance of the operation in suit-

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able cases, and in the Eastern cities it is now being practiced with a steadily increasing average of successful cases. Coming near home we have in this State, many earnest disciples of Trousseau, and judging from the success of their efforts, not unworthy ones either.

Dr. H. Z. Gill, of Jerseyville, Ill., in his report to the State Medical Society, gives a very elaborate exposition of the standing of the operation in our midst; he earnestly and consistently pushes its claim to recognition, and very pertinently remarks that out of the 200 or so deaths from croup and diphtheria in the city of Chicago, between forty and fifty might have been saved had the operation been resorted to. Drs. Bogue, Johnson, Andrews and others of Chicago, have been operating for several years, and, considering the desperate character of the cases, with a high average of successful results. In the concluding portion of Dr. Gill's report, he gives the opinion of some medical men in the State regarding the operation. One gentleman says he regards it as an unphilosophical irrational remedy, the results not justifying its performance. Another says a congress of physicians could not pursuade him to operate in diphtheria, but in croup he is always ready to be up and at it.

From this it will be seen that professional opinion is by no means a unit on the merits of the operation. The only way to settle the question is by practical experience. The man who condemns the operation and denies the patient the chance afforded by its performance assumes a far greater responsibility than he who operates on every available opportunity, and conscientiously carries out the after-treatment. We take the ground that as medical men, when all medical means have failed, we have no right to deny the little sufferer the last chance for its life, and furthermore that the parents have no moral right to do this either. In an experience extending over a number of years we can say that in no case where the operation has been advised and the advice rejected (and they have been many), has the child recovered. We trust the time is not far distant when the medical attendent will be as ready to perform tracheotomy as a life-measure, as he now is to adjust the obstetric forceps on an impacted head.

Within the past nine months we having been treating these

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cases (croup and diphtheria), by a continuous spray of chlorate of potash solution with one per cent. of carbolic acid, also lime-water carbolized to the same degree, and the success which has attended our efforts rather complicates than otherwise our selection of cases for operation.

Out of a series of between thirty and forty cases of all forms, there have been no less than eight recoveries where the larynx was involved, and which might, under ordinary circumstances, be considered suitable cases for operation. We do not claim that the treatment is new, but we do claim that it is more effectually carried out by means of large atomizers, so that the atmosphere of the apartment can be thoroughly saturated with the spray, and the little patient need not be alarmed by the proximity of the apparatus. The atomizer may best be placed in the center of the room, several feet away from the patient. After a careful trial of the various remedies used in the form of spray, we have come to the conclusion that lime-water with one per cent. of carbolic acid and four per cent. of glycerine possesses more solvent power over the membrane than any other. The grand question to be decided is when to operate. If we operate early, we have the satisfaction of saving a large percentage of cases, but feeling doubtful if some of these would not have recovered without surgical interference. If we operate late, we know by experience the rate of mortality rises to a discouraging height. So the first question that naturally arises is: Does the operation *per se* jeopardize the patient's life? We think to a slight extent it does.

As regards the actual performance of the operation, from our experience we are of the opinion, if due care be taken, the chances of mishap are so trifling as to cut but a small figure in the case. This may smack of temerity when we consider that Gross, that surgical veteran, says that he knows of no operation he approaches with greater dread than that of tracheotomy when the subject is a child with a short, fat neck. There is a dissimilarity in the difficulties attending this procedure which does not attend any other operation that we have been accustomed to perform. In Case 15, which was the child with the fat neck (and a truly difficult operation it proved), it seemed as if we never would reach the trachea; yet in Case 16, the patient about

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the same age and fully as robust, the trachea was exposed by a few strokes of the scalpel, and the operation completed with the utmost facility. The actual danger attending the operation commences at its completion. The presence of the tube and the direct entrance of air into the bronchii no doubt have an influence in producing those pulmonary complications which so often prove fatal, but their influence must not be over-estimated, as in many cases these complications are in existence before the operation has been attempted, the cause being the prolonged stridulous breathing, the operation not being resorted to in time. We will not stop now to describe the operation and the danger attending it, as it may be seen in any text-book on surgery. We may remark, however, *en passant*, that in opening the trachea we insert two tenaculæ, one each side of the site of incision. By this means we not only steady and lift the trachea, but by diverging the instrument at the point of insertion, we make the opening wide enough to admit the tube without difficulty. A very excellent device is to pass through the outer tube a closely fitting, soft rubber cathether, so that its point just projects beyond the end of the tube, the rubber being pointed, soft and pliable, readily pushes its way into the trachea without injuring the tissues. As regards the many instruments which have been devised for executing this maneuver, we would not recommend anyone to attempt the operation till he can dispense with their aid.

Martin, of Boston, has operated dispensing with the tube entirely. He cut down on the trachea in the usual manner, and by means of silk thread or silver wire passed through the trachea at the edge of the incision, he holds them apart. Another plan is to make a circular flap in the trachea and have it held back. These modifications we have not yet tried, but considering that the presence of a silver or rubber tube in the windpipe must be a source of irritation, they are deserving of a fair trial. Dr. Martin has had good success.

We now treat all cases of croup and diphtheria, whether there be laryngeal implication or not, by the continuous spray of lime-water with glycerine and carbolic acid in the proportions before mentioned.

We must digress somewhat in order to consider the subject

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from a pathological point of view. It is now beyond doubt that a sphero-bacterium—the so-called micrococcus diptheriçus—is constantly found in the membrane of diphtheria and croup. Whether this minute organism is the product or bearer of diphtheric poison, or is only an unessential concomitant, finding the diphtheric infiltrated tissue the proper soil to thrive in, we do not know. Our knowledge about the character of the poison in contagious and miasmatic disorders is yet so defective that rational therapeutics based on anything but the blind *a posteriori* experience of olden times in most of these diseases has hitherto been an impossibility. Even if the micrococcus be no essential element of the diphtheric poison, it is an element, and the only one the presence of which we are sure of. It is rational, therefore, that we take this as a hint to a rational treatment, especially as most of the measures heretofore proposed have been abandoned because, after fair trial, they have proved to be useless. The first remedy to choose, of course, is some substance that will destroy the life and development of these micro-organisms—i. e., anti-bacteric remedies. As to the point of application of these remedies, it is natural to apply them to the air passages, as these parts are not only the main seat of the local disturbance of the disease, but most likely the parts through which the poison invades the body.

The inhalation of atomized fluid, as was said before, is nothing new, but we believe most of the older instruments were inefficient, and that antiseptic solutions for atomizing have not been used with the constancy and faithfulness they deserve.

Cases Nos 11 and 12 (Lee's) are fair examples in support of the treatment. Case 13 at first improved, but subsequently suffered a relapse. The chances for recovery would have been much better had the operation been resorted to at the first symptom of relapse. Cases 16 and 17 had been treated with the spray for several days before operation, and the condition of the membrane and the ease with which it was expelled, speaks volumes in favor of the treatment, as it must be recollected these were cases of genuine diphtheria where hitherto operative interference has been regarded as utterly futile. Where the evidences of blood poison are well marked, the laryngeal involvement and septic influence progressing *pari passu*, it is folly to suppose an operation could be of any benefit; where the characteristic listlessness is present,

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there is not the acute suffering for want of sufficient oxygen that exists in cases where the obstruction exists without the septic influence predominating; so it may be summed up that by the employment of antiseptic remedies, with the timely performance of tracheotomy in suitable cases, we give the patient a double chance. The antiseptic treatment *per se* is no doubt a powerful agent in our hands in battling with this dread disease, and in a certain number of desperate cases has proved an efficient remedy, but as we understand it we would not feel justified in trusting to it alone in cases grave enough to suggest operative interference.

With a view of testing the correctness of this theory, we would recommend a faithful and efficient application of the remedy, the patient having been placed under the spray, the internal medication consisting of quinine and alcohol in large and frequently repeated doses. And here we must again digress to protest against the employment of any depressing agent in treating these diseases. We are convinced that it is a septic poison generated in a congenial soil, and consequently must regard the use of emetics, escharotics, arterial sedatives, etc., as unphilosophical and irrational. If under the spray and internal stimulation the improvements be not steady and progressive, operative interference should be immediately resorted to, provided the nervous system be not overwhelmed by the septic poison. Every hour's delay enhances the danger, so quickly and surely the dreaded pulmonary complications are added to the previous difficulty. In Dr. E. H. Bennett's case, an examination made between ten and eleven o'clock in the forenoon failed to reveal any complication in the chest, yet in the evening there was a well-defined pneumonia, and at the time of the child's death—one o'clock the next day—the greater part of the lung had become absolutely solid. Remove the tube as early as possible (we commence on the fourth day), if only for an hour it can be dispensed with, a point is gained; next trial the child can breathe without its assistance for a longer period, and so on. The presence of the tube is a constant menace, and this fact should not be lost sight of. In Case No. 16 (Lee's) the child had pneumonia when operated on, and it was particularly desirable that the tube should be dispensed with as quickly as possible. At the end of the fourth day, Dr.

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Lee removed it, and remained with the child for ten hours. Though at first the breathing was quite difficult, he refrained from re-introducing the tube, preferring to wait till it grew absolutely imperative. In a couple of hours the parts appeared to accommodate themselves to the altered condition, so that in twelve hours there was no further danger from that quarter.

M. Cairn, in the *St. Louis Courier of Medicine*, in reviewing the causes which may constitute an obstacle to the removal of the canula, mentions prominently two varieties of tracheal construction. The first variety, although rare, has, however, been demonstrated in a certain number of cases. It arises through the presence of fleshy growths springing from the wound, especially through those deeply seated upon the borders of the tracheal incision, and which grow in the midst of a cicatricial tissue projecting into the air passage after the closure of the cutaneous wound. The second variety up to the present time has not been described at all. A tracheotomized child was seized with a fit of suffocation just as the physician was attempting to effect a permanent removal of the canula. Examining the depths of the tracheal wound, he perceived a reddish prominence in the interior of the trachea which was taken for fleshy vegetation of the posterior wall. The child died in a fit of suffocation. Prof. Guyon recognized, upon the post mortem specimen sent him, that the projection regarded during life as vegetation was formed by the posterior wall of the trachea itself, which was folded longitudinally in its entire thickness. This folding was itself due to the approximation of the posterior extremities of the tracheal rings, separated anteriorly for the introduction of the canula. M. Currie, experimenting with the view of discovering the conditions of the production of this protrusion, concluded this particular variety of constriction which hitherto had not been pointed out, ought to be nevertheless rather frequent among children. It occurs after the introduction of the canula, and the more readily according as the membranous span which lies between the posterior extremities of the rings is large. It affects chiefly the first three rings of the trachea. The projection which results produces a tracheal constriction that may persist and prove a permanent obstacle to the removal of the canula.

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NAME.	AGE.	CAUSE.	RESULT.	RESIDENCE.	OPERATOR.	DATE.	REMARKS.
1. Nannie Keegan.	3 years, 10 mos.	Diphtheria.	Died.	Chicago.	Dr. E. W. Lee.	Aug. 29, '77.	Sick three days. Used chloroform. Lived thirty hours.
2. John Phalon.	4 years.	Diphtheria.	Died.	Chicago.	Dr. E. W. Lee.	Oct. 18, '77.	Sick two days. Asphyxia imminent. Gave chloroform. Lived two and a half days. Died by asphyxia.
3. Clara Nolan.	7 years.	Memb. Croup.	Recovered.	Chicago.	Dr. E. W. Lee.	Oct. 23, '77.	Two weeks complaining. Chloroform. Artificial respiration necessary after the operation. Removed tube sixth day.
4. Matthew Curran	4 years.	Memb. Croup.	Died.	Chicago.	Dr. E. W. Lee.	Nov. 17, '77.	Sick thirty-six hours. Lived two and a half days. Died by exhaustion. Chloroform.
5. Eddie Nolan.	4 years.	Memb. Croup.	Died.	Chicago.	Dr. E. W. Lee.	Nov. 23, '77.	Sick five days. Chloroform. Lived twelve hours; died of exhaustion.
6. Elice Purcell.	3½ y'rs	Memb. Croup.	Died.	Chicago.	Dr. E. W. Lee.	Dec. 7, '77.	Sick four days. Lived four days. Died from asphyxia. Chloroform.
7. Mich'l O'Rorque	2 years, 2 mos.	Memb. Croup.	Recovered.	Chicago.	Dr. E. W. Lee.	March 18, '78.	Sick two days. Removed tube fourth day. Chloroform.
8. James O'Grady.	2 years, 4 mos.	Memb. Croup, no membrane visible.	Recovered.	94 Brown Street, Chicago.	Dr. E. W. Lee.	Oct. 12, '78.	Three days sick. Tube worn nine days. Chloroform. Condition: Pulse, 140; respiration, 48; temperature, 103.5°; laryngeal obstruction permanent forty-eight hours; whispering voice; nasal dilation; retrocession of the base of the thorax marked; slight glandular enlargement. Low operation. Anæsthetic difficult of toleration.
9. Albert Caproni.	4 years.	Diphtheria.	Died.	254 S. Halsted St., Chicago.	Dr. E. W. Lee.	Dec. 9, '78.	Four days sick. Died on fifth day after operation. Exhaustion from blood-poisoning. Chloroform well borne. Condition: Pulse, 130; respiration, 36; temperature, 10.-°; laryngeal obstruction present forty-eight hours; tonsils soft; palate and fauces covered with a thick exudate; husky voice; dilated nostrils; epigastric sinking; glandular enlargement in neck. Low operation.
10. Lucy Gray.	3 years, 3 mos.	Cynanche Trachealis Croup.	Died.	341 Fulton St., Chicago.	Dr. E. W. Lee, assisted by Drs. Van Buren, Bridge and Landis.	Dec. 27, '78.	Four days sick. Tube worn and lived 26 hours. Cause of death, exhaustion. Chloroform. Condition: "Asphyxiated, death imminent." Low operation. Parents grateful that the operation was done. Should have been done earlier. Diphtheria suspected.
11. Lucas West.	3 years, 3 mos.	Diphtheria.	Died.	S. Dearborn St., Chicago.	Dr. E. W. Lee.	Aug. 16, '79.	Lived sixty hours after operation. Immediate cause of death, asphyxia caused by extension of membrane. Anæsthetic, chloroform. Impending suffocation at time of operation. Low operation.
12. Aaron West.	5 years.	Diphtheria.	Recovered.	S. Dearborn St., Chicago.	Dr. E. W. Lee.	Aug. 17, '79.	Duration of previous illness, five days. Tube worn one week. Pulse, 160; respiration, 60; temperature, 103. Low operation.

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NAME.	AGE.	CAUSE.	RESULT.	RESIDENCE.	OPERATOR.	DATE.	REMARKS.
13. Norah Ryan.	2 years.	Memb. Croup.	Died.	48 Gurley Street, Chicago.	Dr. E. W. Lee.	Dec. 27, '79.	Duration of previous illness, one week. Lived fourteen hours after operation. Immediate cause of death—exhaustion. Anæsthetic, chloroform. Pulse, 168; temperature, 103.5°. Low operation.
14. W. Madden.	3 years.	Diphtheria.	Died.	Eighteenth St., Chicago.	Dr. Lee, assisted by Dr. Guerin.	Jan. 1, '80.	Duration of previous illness three days. Lived twenty-four hours after the operation. Immediate cause of death, asphyxia. Anæsthetic, none. Pulseless, deeply cyanosed. Respiration almost ceased. Low operation rapidly performed.
15. Alice Green.	3 years, 3 mos.	Diphtheria.	Died.	Blue Island, Ill.	Dr. Lee assisted by Drs. Herman and Kaufman.	Jan. 19, '80.	Previous illness, eight days. Lived six days. Cause of death, pneumonia. Anæsthetic, chloroform. Pulse, 144; respiration, 48; temperature, 103°. Low operation.
16. C. J. Byrne.	3 years, 6 mos.	Diphtheria.	Recovered.	W. Randolph St., Chicago.	Dr. Lee, assisted by Drs. W. E. Clark, Norman Bridge and son of Dr. Byrne.	Feb. 5, '80.	Previous illness, seven days. Tube worn seven days. Anæsthetic, chloroform. Pulse, 144; respiration, 64; temperature, 101°. Exudation of membrane over the soft parts of pteta and tonsils. Low operation.
17. H. Graft.	7 years.	Diphtheria.	Recovered.	166 Brown St., Chicago.	Drs. Lee, assisted by Drs. McLennan and Leneman.	April 20, '80.	Previously ill, ten days. Tube worn five days. Anæsthetic, chloroform. At time of the operation: Pulse, 132; respiration, 48; temperature, 102°. Head thrown back, lips blue, face pale; epigastric retrogression. Two hours after operation: Pulse, 112 temperature, 101°; respiration, 36. Breathing with perfect freedom. High operation.

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NAME.	AGE.	CAUSE.	RESULT.	RESIDENCE.	OPERATOR.	DATE.	REMARKS.
1. Einzvahl.	3 years.	Memb. Croup.	Recovered.	West Indiana street, Chicago.	Dr. Christian Fenger, Surg. to Cook County Hospital.	Oct. 18, '78.	Previous illness, three days. Anæsthetic, none. Dyspnœa urgent. Pulse and temperature high. Tube worn five days.
2. F. Gehrig.	2 years.	Diphtheria.	Died.	Chicago.	Dr. Fenger.	Oct. 25, '78.	Previous illness, ten days. Died Oct. 26. Immediate cause of death, "collapse." Condition at the time of operation, "collapsed." High operation.
3. H. Kenzie.	8 years.	Diphtheria.	Died.	Penn street, Chicago.	Dr. Fenger.	Sept 30, '79.	Previous illness, eight days. Lived four hours after the operation. Immediate cause of death, collapse, hæmorrhage. Severe dyspnœa, extensive diphtheritic exudation. Marked symptoms of blood-poisoning. Anæsthetic, chloroform.
4. William Archer.	3 years.	Diphtheria.	Died.	Chicago.	Dr. Fenger.	Oct. 27, '79.	Previous illness ten days. Lived twenty hours. Immediate cause of death, exhaustion. Anæsthetic, none. Diphtheritic exudation on tonsils, soft palate and extending into the larynx. Pulse rapid and feeble. Blood-poisoning. High operation.
5. O. Malkon.	4 years.	Diphtheria.	Recovered.	Chicago.	Dr. Fenger.	Dec. 21, '79.	Previous illness, seven days. Tube worn fourteen days. Anæsthetic, none. Tonsils and soft palate covered with diphtheritic exudation. Pulse and temperature high. High operation.

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ARTICLE II.

TREATMENT OF DISEASES OF THE LARNYX. By E. FLETCHER INGALS, M.D., Lecturer on Diseases of the Chest and Physical Diagnosis, and on Laryngology in the Post Graduate Course, Rush Medical College.

GENTLEMEN:—Having pointed out in my recent lectures the symptoms and signs which will enable you to diagnosticate diseases in the larnyx, I wish this morning to call your attention to the methods of treatment for the most common diseases, which may be best employed by the general practitioner.

IN ACUTE LARYNGITIS,

if the patient is brought to us sufficiently early, our first effort should be to abort the attack; for this purpose it is customary to give at bedtime ten grains of Dover's powder, or from six to ten grains of quinine, or a hot "sling," either one of which will frequently enable the patient to rise in the morning comparatively well; or, instead of these, aconite may be given, or the fluid extract of jaborandi; either will answer much the same purpose as the Dover's powder. Theoretically, jaborandi should be a very valuable remedy in such cases, but generally I have failed to get a good article when I have prescribed it. In a few cases it has acted very satisfactorily, but in others the discomfort which attends its physiological action has been very great, on account of the salivation, and often nausea and vomiting.

A gentleman of my acquaintance once took half a drachm of the fluid extract, and went immediately to bed, hoping to fall asleep before the diaphoresis began. He describes the effects as follows: "In about twenty minutes I felt my mouth fill with saliva, and on rising to expectorate it perspiration started from every pore; my mouth was scarcely emptied before expectoration was again necessary, and this continued until the act became so tiresome that I was obliged to hang my head over the edge of the bed and allow the saliva to run in a steady stream; the sweat poured from every part of my body almost in streams, and satu-

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rated the bed clothing; this continued for about three hours, the monotony varied only by occasional vomiting, and at about the end of two hours a cessation in the flow of saliva, which, however, promptly returned when I moved to arrange myself for sleep."

This remedy might doubtless be taken in the daytime without proving so uncomfortable as at night, when the patient wants to sleep.

Failing to abort the attack, you will next resort to remedies which diminish the fever and lessen the inflammation or favor its speedy resolution. With this in view the bowels should be gently acted on by saline cathartics, and you may administer opiates internally in small and repeated doses, giving about one thirtieth of a grain of morphia or its equivalent every half hour, or less frequently, or you may give grain doses of compound ipecac powder, or small doses of other narcotics. Aconite may be given with good results in doses of half a drop every fifteen minutes for a couple of hours, subsequently diminishing the frequency, and increasing the size of the dose to one or two drops every two hours. In view of the danger from œdema, some are in favor of early administering a free purge of calomel, and subsequently using the mercurial in small and frequent doses. The inhalation of steam, or steam impregnated with volatile anodynes, is usually beneficial. The atmosphere of the room should be kept moist, and at a temperature of about 70° F. or 75° F.

With children, the steam from a kettle may be kept playing near the mouth, and older persons may inhale from the spout of a teapot filled with warm water, or from an ordinary steam atomizer. When the patient inhales the vapor from warm water, the addition of some anodyne is desirable, such as one drachm of compound tincture of benzoin, or the same with two to five drops of chloroform, or eight grains of the extract of conium, or a drachm of extract of lupulin rubbed up with half a drachm of carbonate of sodium and a little water, and added to the pint of water at 150° F., or remedies may be administered by the steam atomizer advantageously, as, for instance, two or three grains of carbolic acid to half an ounce each of glycerine and water, or mild astringent solutions with or without small quantities of opium

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or belladonna. For these you may employ a couple of grains of sulphate of zinc to an ounce of water, or tannin in about the same proportions, or acetate of lead.

If there is much pain in the throat, or if the person is restless, the amount of opium given internally may be increased, or you may add some of the watery extract of opium or belladonna to the solution which is used for atomization; in many cases the camphorated tincture of opium, or the compound tincture of benzoin, acts very pleasantly, whether used as a vapor in the warm water or as a spray by the steam atomizer.

Strong topical applications cannot be made by the general practitioner, and are of doubtful efficacy, even when properly applied. Strong solutions of the mineral astringents, especially from sixty to one hundred and twenty grains of nitrate of silver, are highly extolled by some physicians, but in the majority of instances patients seem to get along better without them.

If œdema of the larnyx supervenes, the case tends to a fatal issue unless promptly checked or relieved. The best method of treatment is scarification of the mucous membrane so as to allow escape of the serum which has collected in the submucous tissues. Scarification of the epiglottis and occasionally the superior portions of the larnyx can usually be performed by the general practitioner by the aid of a long bistoury, around which has been wrapped, to within a quarter of an inch of its point, a piece of adhesive plaster for the purpose of avoiding injury to the tongue.

By the aid of the laryngoscope we are enabled to scarify the deeper portions of the larynx more carefully and effectually. This is the best treatment, but where it cannot be practiced the administration of emetics is sometimes followed by good results, due to the act of vomiting which occasionally causes rupture of the mucous membrane.

The fluid extract of jaborandi might be given in some of these cases with benefit. In one instance in which I employed it the œdema was greatly relieved. If efforts to relieve the œdema fail, and the obstruction to respiration increases, tracheotomy will become necessary.

Frequently a subacute form of inflammation follows acute laryngitis, and may continue for a long time. This will require

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the application of stronger remedies. The general physician may apply them by means of an atomizer with a long tube properly bent to throw a spray into the throat, the patient being directed to respire deeply, or to sound a prolonged, high-pitched note during the application. For this purpose almost any of the mineral astringents may be used in moderately strong solutions, or various astringent powders may be thrown into the larynx, but these latter are not so desirable as topical applications of strong astringents by means of a brush. For application with a brush or sponge we may use sulphate or chloride of zinc, twenty or thirty grains to the ounce of water, or water and glycerine, or twenty grains of the perchloride or persulphate of iron. One hundred and twenty grains of sulphate of iron, ten grains of sulphate of copper, or twenty to thirty grains of alum to the ounce of fluid, may be used in a similar manner. Some physicians prefer nitrate of silver in solutions varying in strength from twenty to even one hundred and twenty grains, but the other astringents seem to act equally as well, and are less likely to be painful. Counter irritation at the upper part of the sternum or upon the back of the neck will sometimes be found useful.

ACUTE LARYNGITIS IN YOUNG CHILDREN

requires more vigorous treatment than in adults, because of the small size of the larynx, and the greater liability to spasm of the glottis. In treating these cases the warm bath should be used at first to relieve the engorgement of the mucous membrane and tendency to spasm. The atmosphere of the room should be kept moist by steam, and the temperature kept up to 80° F. or 85° F., and when possible the little patient should be induced to inhale steam from the atomizer. Frequently young children become very much alarmed by the atomizer, when brought close to their faces, but they will get some benefit from it though it is placed three or four feet away. A great deal of benefit will frequently be derived from warm applications, care being taken to keep the parts constantly warm and moist. For this purpose poultices of flaxseed are as good as anything, or you may use cloths wrung out of hot water, or spongiopilin with warm water which latter is an elegant application; whichever of these is em-

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ployed it must be kept constantly hot, for if allowed to cool it will do more harm than good. If these cannot be kept warm it is much better to apply dry cloths. Turpentine stupes to the neck have also been found beneficial. If there is much tendency to spasm, the compound syrup of squills may be given, or small doses of belladonna, which not only relieve the spasmodic tendency, but possibly have some specific curative effect on the mucous membrane of the throat.

If œdema comes on, you should make an effort to scarify the part, but generally this cannot be effected in young children; failing in this, by passing the finger over the base of the tongue, you will sometimes be able to tear the mucous membrane with the nail, and thus allow the serum to escape. If you cannot relieve the œdema, and the dyspnœa continues to increase, do not hesitate to resort to tracheotomy, which holds out very good chances for recovery.

In a few rare instances of acute laryngitis in young children, the dyspnœa seems to be due to inflammation of the posterior crico-arytenoid muscles, which are the abductors of the vocal cords. The glottis during respiration in health is a triangular chink, but with paralysis of these muscles the cords are drawn together during inspiration, so as to greatly interfere with the ingress of air. In one case of this sort, reported by Dr. J. Solis Cohen, it was found that the application of ice bags to the neck every minute for about eight hours succeeded in inducing reflex respiratory movements, which carried the child over the critical period.

IN SUB-ACUTE LARYNGITIS,

which is the form of affection found in ordinary colds, the treatment is generally attended to by the patient himself; if consulted, you should manage the case as one of mild laryngitis, taking care to prevent exposure to cold, keeping the patient in his room, and applying the milder remedies recommended for the acute affection.

PHLEGMONOUS LARYNGITIS

is a very grave affection, and therefore calls for more vigorous treatment. Early in the disease, the application of leeches along the edge of the sternum, or in the inter-clavicular notch, has

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een recommended, and you should at once have recourse to
omentations and the inhalation of steam, more or less impreg-
ated with opium or belladonna according to the amount of dis-
ress. Subsequently, the case should be treated upon the sup-
orting and stimulating basis, consisting of nourishing diet, alco-
olics, and quinine and iron. The diet should be fluid, and, as
he patient will ordinarily be unable to swallow, it must gener-
lly be given by enema. Quinine may be given hypodermically,
r by enema, if the patient cannot swallow. In this disease,
carification is of little benefit. Tracheotomy is indicated when
he patient suffers much dyspnœa, but it is usually fruitless.

IN ERYSIPELATOUS LARYNGITIS

he inhalation of steam is beneficial, and when impregnated with
nodynes it will add much to the patient's comfort. Frequently
metics are useful in young children, for the sake of clearing the
hroat. The most desirable emetic in such cases is alum or the
ulphate of copper; alum is usually the best, but neither of them
auses subsequent prostration. Benefit has also been obtained
n these instances, by causing the patient to hold small bits of ice
n his mouth.

Some specialists have found benefit from the topical use of
ery strong solutions of nitrate of silver.

Tracheotomy is indicated if dyspnœa becomes urgent, but usu-
lly it will not save the patient.

TRAUMATIC LARYNGITIS

s an affection which any of you are likely to be called upon to
reat, especially that form resulting from the inhalation of steam
y young children. The most satisfactory treatment consists of
he inhalation of steam more or less impregnated with substances
hich relieve the smarting, and anodynes used internally or hypo-
ermically, to relieve the pain and restlessness. At the same
ime the patient should be well nourished, and stimulation may
ery soon be found necessary. The constant application of bags
f ice to the neck, and sucking bits of ice, are also beneficial.
Considerable relief from the smarting in the mouth and throat is
btained by the inhalation of atomized solutions of the acetate of

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lead, or carbonate of soda. Mucilaginous drinks, as, for instance, flaxseed tea, or barley water, will also be found beneficial. These drinks are frequently very distasteful to the patient, but if acidulated with a little lemon juice, they become quite palatable.

Calomel is recommended in doses of two or three grains once an hour, until relief is obtained. I dislike to give it, but it has the sanction of high authority.

Œdema comes on very soon, and if it should cause much obstruction to respiration, tracheotomy must not be delayed, for if it is, the chance of success will be much less, or the patient may suddenly die from suffocation. The œdema seldom extends below the glottis, therefore the operation is generally successful if performed sufficiently early; but if the blood is allowed to become surcharged with carbonic acid, the relief afforded does not come soon enough to prevent the cerebral or pulmonary complications which are likely to result from the congestion.

ABSCESSES OF THE LARNYX

are likely to cause death by asthenia or apnœa. The treatment should be supporting from the first, and if possible to reach the abscess, it should be opened; but if this cannot be done tracheotomy should be performed as soon as the dyspnœa becomes urgent.

ŒDEMA OF THE LARYNX.

In this affection ice bags applied to the neck or ice held in the mouth will give considerable relief, and tannin applied in spray, powder, or by the brush, will be found beneficial, but scarification is the most rational treatment, and it has the advantage of giving immediate and usually permanent relief. Chronic œdema is not much improved by scarification, because it usually depends upon a fibrinous instead of a serous exudation. The application of strong mineral astringents is likely to give some relief.

IN SUB-GLOTTIC ŒDEMA,

occurring just beneath the vocal cords, the various topical applications are almost useless. Usually the œdema is due to a fibrinous exudation, so that even if scarification could be practiced, it would be without result. In these cases dyspnœa can only be

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relieved by tracheotomy, and subsequently, in the majority of cases, the tube must be constantly worn.

CROUP

may be beneficially treated in much the same manner as acute laryngitis. The patient should be kept in a room with moist atmosphere, at a temperature of about 85°. Hot fomentations may be applied to the neck; emetics are valuable to clear the throat of mucus, and occasionally they aid in detaching false membrane, but only those should be used which have no depressing effects, such as alum, sulphate of copper, or turpeth mineral. Iron and quinine may be needed. Chlorate of potassium seems to have a good effect in some instances, and in others, small doses of the permanganate of potassium have given very satisfactory results. The insufflation or internal use of sulphur has been greatly lauded by the laity recently, and has been tried very generally by the profession, apparently with some success. Inhalations of the vapor from slacking lime, or atomized lime water are often very useful in promoting the disintegration and detachment of the false membrane.

The patient should take these inhalations every twenty minutes or half-hour. Vapor from slacking lime may be obtained by dropping bits of lime into a basin of hot water and holding over it a piece of paper rolled into the form of a funnel, which will collect the vapor and direct it into the patient's mouth, or the basin may be placed near the patient's head, and both be covered with an apron or sheet.

Lime water may be used with the hand atomizer, or better still with the ordinary steam atomizer. If this treatment does not answer the purpose, you should try a solution of one grain of bromine and five to sixty grains of bromide of potassium to the ounce of water, used in the same manner as the lime water; or the two may be used alternately.

The tendency to spasm which nearly always exists in true croup should be met by the administration of opium or belladonna, which will render the disease a little less dangerous. Considerable benefit seems to have been derived in some cases from the application of bags of ice to the neck.

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In croup, the results of tracheotomy are not nearly so satisfactory as in acute laryngitis, or œdema following injury to the throat; however, the operation should be resorted to in case dyspnœa becomes urgent. The chances of success will be greatly increased by an early operation; therefore as soon as there is marked lividity of the lips and falling in of the soft parts of the chest during inspiration, tracheotomy should be performed; for unless relief is obtained, death is certain. Be sure of the diagnosis, and then operate early, and you may hope to save from twenty to fifty per cent. of your patients. Late operations are not nearly as successful, and without tracheotomy, about ninety-five per cent. of well-marked cases of croup are fatal.

During convalescence from croup, the patient should be confined to the house for several weeks, and great care be taken that the body is not chilled by changes in the temperature or clothing. If the patient is allowed to go out, a recurrence of the attack is quite probable.

I lately saw a little child, in consultation, who was, at the time, almost comatose from obstruction to the respiration by croupy exudation. The remedies which were being employed, aided by the inhalation of vapors of lime water, had such a beneficial effect that on the following morning the child seemed almost well. The next day the people allowed it to play in the street, and the next day it was buried.

After convalescence from croup, the voice frequently remains hoarse for a number of weeks or months; this is due to subacute inflammation, paresis of the vocal cords, or perhaps to the formation of morbid growths within the larynx. Time usually effects a cure.

LARYNGISMUS STRIDULUS: SPASMODIC OR CEREBRAL CROUP.

During the paroxysm, an attempt should be made to relax the spasm by slapping the back, buttock, etc., dashing cold water in the face, cold sponging, or by the warm bath. After the paroxysm, you must attempt to remove the cause of the spasm, which may be found in the alimentary canal, prepuce, spinal cord, or brain. If you find swollen gums, lance them; if an overloaded stomach, give emetics; if you find the bowels irritated by undi-

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gested food, give a dose of castor oil; if there is phimosis and irritation of the glans, circumcise; or if the cause seems seated in the brain or spinal cord, give bromide of potassium.

The affection in children is usually associated with slight catarrhal laryngitis, and the spasm is perhaps most frequently excited by an overloaded condition of the stomach. In such cases, turpeth mineral in doses of one-fourth to one-half grain, or the compound syrup of squills in doses of fifteen to thirty drops every fifteen minutes until vomiting is produced, and subsequently moderate doses of bromide of potassium or oxide of zinc and extract of hyoscyamus, is a prompt and efficient course of treatment. Following the attack, small doses of belladonna will be useful. Iron, cod liver oil, etc., are indicated to improve the general condition.

This disease, especially in adults, is occasionally due to paralysis of the posterior crico-arytenoid muscles, which allows the vocal cords to fall together during inspiration and thus obstruct the entrance of air. In cases of this sort, if they are at all persistent, tracheotomy should be performed to remove the immediate danger, and allow the patient time to recover from the cause of the paralysis. After tracheotomy, the application of electricity, internally or externally, to the larnyx, would seem to be indicated, but it has not proven very successful. The administration of tonics, including strychnia, is usually followed by good results.

CHRONIC LARYNGITIS

is usually a difficult disease to manage, because the treatment must be prolonged and the patient is very likely to become discouraged. In mild cases, by attending to the general health, placing your patient under as good hygienic conditions as possible, and administering such simple tonics or laxatives as may seem indicated, you will be likely to get a good result without topical applications. A cure may often be hastened by causing the patient to inhale the spray, two or three times a day, of a mild solution of some vegetable or mineral astringent. Tannin is the most common remedy for this purpose, but sulphate of zinc is a little more pleasant. It should be used in the proportion of about two grains to the ounce of water; or we may employ in

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the same manner sulphate of copper, one or two grains; or acetate of lead, two to five grains to the ounce. These remedies are to be used when the amount of secretion is considerable. When the mucous membrane is dry and the secretion scant, we will find good results from a similar application of iodide of potassium, five grains; chloride of ammonium, five or ten grains; or the tincture of pyrethrum, ten minims to the ounce. Water is generally used as the menstruum, though we may use a mixture of glycerine and water. The nascent chloride of ammonium may be employed by any one of the numerous inhalers devised for the purpose.

When chronic laryngitis is attended by pain, the camphorated tincture of opium, or the compound tincture of benzoin, or the watery extract of opium or belladonna, may be beneficially added to the astringent spray. Patients who are being treated by inhalations of warm vapors or steam sprays must not go out of doors for half or three-quarters of an hour after the inhalation.

In case the disease does not yield to this form of treatment, sulphate of zinc, chloride of zinc, or the sulphate of copper, ten to thirty grains to the ounce; sulphate of iron, from sixty to one hundred and twenty grains; or nitrate of silver, thirty to one hundred and twenty grains to the ounce, or some other astringents or caustics, should be applied directly to the inflamed parts with the aid of the laryngoscope and laryngeal brush or sponge. Ordinarily, these strong applications should be made at first every day, for one or two weeks, then every second day, and afterwards less frequently. In the meantime the patient should use at home some of the milder astringent sprays of which I have just spoken. When the patient is obliged to breathe cold air, or air containing irritating dust, the use of a respirator to modify the temperature or filter the air will be found very beneficial.

In some instances the best treatment which can be applied will be found inefficient; then you will have to be content with palliative measures and maintaining the general health in good condition. All cases must receive proper constitutional treatment besides the local applications. Such patients are frequently benefited by change of climate.

When ulceration occurs in simple chronic laryngitis or in the

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syphilitic or tuberculous forms, the treatment must be more vigorous. Syphilitic ulcers should be treated by topical applications of the solid nitrate of silver, or very strong solutions; or the acid nitrate of mercury, forty to one hundred and twenty grains to the ounce; or when the ulceration is on the epiglottis, so that it can be reached, the galvano-cautery may prove more efficient. The applications will not need to be repeated oftener than once in two or three days. In the ulcerations due to a simple chronic laryngitis, the same topical applications are indicated as in chronic inflammation without ulceration, but the solution should be stronger and should be applied carefully to the ulcerated surface. In tuberculous laryngitis with ulceration, and dysphagia due to pain, very great benefit may be derived from local applications. For the general practitioner, the simplest local remedies are cod liver oil or sweet oil. When swallowed they bathe the parts more or less completely, and thus aid in preventing the severe pain which would otherwise prevent the ingestion of food. The same remedies may be applied with the brush or probang. The insufflation of certain powders will be found beneficial, and this may usually be easily accomplished by the general practitioner. The insufflator which I have found most satisfactory consists of a rubber bulb attached to a flexible tube about eighteen inches in length, and a glass tube about eight inches in length and three-sixteenths of an inch in diameter, bent within an inch of its extremity nearly to a right angle and made somewhat flaring at the orifice of this bent end. The insufflators found at the instrument stores consist of a metal or gutta-percha tube, bent at one extremity and having a rubber bulb attached to the other. The objection to these is that as the bulb is squeezed, the end of the instrument is unavoidably moved from its position and the powder is thrown somewhere else than where intended. This objection does not apply to the insufflator which I show you. In using it, the glass tube, having been charged with the powder and introduced into the end of the flexible rubber tube, is held between the thumb and first finger of the right hand, and the rubber bulb is held in the palm of the same hand by the remaining fingers, so that it may be readily compressed without affecting the position of the glass tube. In charging the

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insufflator the end which is to be inserted into the rubber tube should be passed into the powder, and moved round and round until sufficiently filled; it is then connected with the rubber tube. To make the application, if you cannot use the laryngoscope, hold the insufflator with your right hand and with the other hold the patient's tongue far out of the mouth, then direct the patient to take a deep inspiration, and during the act pass the tube as far back, and low down into the throat as you can, compress the bulb, and the powder will nearly always be blown directly into the larynx. The powder which will be most beneficial in cases of tuberculous ulceration consists of one grain of morphia to about forty grains of bismuth and ten grains of pulverized acacia; or, if there is much secretion, you may substitute a portion of the bismuth by tannin or iodoform, or both. When the pain in deglutition is severe, you can give your patient the greatest relief by the application to the ulcer, by means of the laryngeal brush, of a solution of tannin and carbolic acid in glycerine; I use four grains of morphia, thirty of tannin, and thirty of carbolic acid to the ounce of glycerine. The relief which I have been able to procure such cases by this application has given me more satisfaction than anything else during my professional life. In illustration, I will cite only a couple of cases: A gentleman called on me some time ago, in a most piteous condition, who, on account of the pain, had found it impossible to swallow for a week. Upon laryngoscopic examination, I found a large and deep ulcer on the lingual surface of the epiglottis. I brushed this solution well over the surface of the ulcer, and he returned to me the next day, having eaten his supper and breakfast without the slightest difficulty. I made another application, and then saw nothing more of the patient for about two months. On his return, he told me that he had not suffered in the least since the last application, until the last few days. I made another application, and the patient has not yet returned.

In another case, there was a large ulcer on the ventricular band of the left side, and extending to the inter-arytenoid fold; the pain being so great on attempts to swallow, that the patient was unable to take either fluids or solids. I made an application which relieved the pain entirely, and made the patient comfor-

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able for nearly two days. Subsequently the applications were made nearly every second day, for several weeks, each time giving the patient almost complete immunity from pain, for from forty to forty-eight hours, with the result of allowing the ingestion of food and drink, and prolonging life for a couple of months, until the patient succumbed to the constitutional disease.

ARTICLE III.

THE TREATMENT OF URETHRAL STRICTURE BY THE "PERINEAL SECTION." BY L. RANNEY, M.D.; Adjunct Professor of Anatomy in the Medical Department of the University of the City of New York. Author of "A Treatise on Surgical Diagnosis," "The Essentials of Anatomy," etc.

(Being one of a course of lectures delivered in 1875, before the students of the Medical Department of the University of the City of New York, with some later comments.)

The operation of dividing urethral constrictions through the perineum has long been the resort of surgeons as a means of relieving symptoms, which are not only distressing to the patient but which may often endanger his life. This operation has always been considered one of difficulty, and many of the earlier surgeons, who then cut "anatomically" for the urethra, when narrowed and often-times imbedded in a mass of indurated tissue differing but little from cartilage, had every reason to approach such a procedure with caution and even fear; since the chances of failure were by no means small, if the exposing of the true urethral channel was alone counted as success. In point of fact, the establishment of a channel, no matter what was the direction or the anatomical relations of the artificial passage, so long as it ended in the bladder and would allow of the passage of an instrument, introduced at the meatus urinarius, was a surgical success of which many of the most skillful were proud. Thanks to the discovery of those small whalebone guides, which can be modified, as to the shape of the inserted end, to suit the requirements of the case or the taste of the operator, many of the dangers and difficulties of the operation are now things of the past, and a guide can thus be afforded in almost every case by which the surgeon

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may know when he is laying open the urethral canal or simply dividing tissues adjacent to it. I regard this discovery as one of the greatest advances in urethral surgery, of which the present century can boast; since these little instruments can be made, by skillful hands accustomed to their use, to travel the tortuous route of many an organic stricture which was once considered impermeable, and afterwards to afford a true and unerring guide for larger instruments, which are so tunneled as to follow the guide and still be capable of great latitude of movement. The soft filiform guides were but a poor substitute for these little aggressive weapons, since their flexibility was a serious obstacle to their introduction, although a possible advantage after it, and they were often worse than useless, as the skill of the surgeon and that cultivation of touch, which is so useful in the introduction of the one, were wasted in attempts to introduce the other. I have seen good surgeons play one of these deceptive instruments within the urethra of a male, while surrounding students gazed on the tiptoe of expectancy, and, when the face of the surgeon would light up with a gleam which denoted the realization of a triumph, the end of this little joker would appear at the meatus, having doubled upon itself and retraced its steps without informing the friend who had staked his faith upon it. I can conceive of no good surgeon who can to-day rely upon these guides in preference to those of whalebone, unless he be either ignorant of the various devices of which the latter are capable and the general rules for their use, or be so destitute of the perceptions of a cultivated touch that he prefers to trust to the accidental engagement of one of these soft instruments rather than to acquire the skill needed in the employment of the other.

If you will look at the specimens which I present before you, you can easily perceive that the whalebone guides are made of a diameter somewhat smaller than that of a knitting needle, and, were you all as close to me as those on the front seats, you could perceive also that each end is tapered until within a short distance of the point, when an olive shaped extremity is formed by a return to nearly the diameter of the shaft. The object of this bulb upon the point is to afford protection to the mucous membrane of the urethra, and to prevent, as far as possible, the en-

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rance of the instrument into the lacunae of the canal, or the jaculatory ducts.

These guides can be purchased at any of the instrument makers, r can even be made by anyone, expert in the use of an ordinary enknife, by scraping down a split piece of whalebone which can e procured in any country store. Whalebone has the advantage f flexibility, and a certain pliability when placed in hot water hich admits of any modification of its form. It also never be-omes brittle as does gutta-percha, which is therefore useless for uch instruments. This latter property is of great benefit to the urgeon, as by use of heat, the points of these little instruments an be made to assume a bent angle, or a spiral form if demanded, nd the application of cold water will make it permanent, until se has again altered it. The filiform bougie, which I have con-emned, is now shown to you. It consists, as you see, of a small nd very flexible guide, whose weight alone causes it to hang lownwnward, as I hold it in my finger. It is used as an attach-ble extremity to urethral instruments, being inserted through he stricture and then attached to the end of the instrument hich is destined to follow it. The extreme softness of the mate-ial of which it is made renders it incapable of doing injury, even f pushed completely into the cavity of the bladder, or of making puncture of the urethra during its introduction, in spite of the harpness of its point. It will be shown you in what respects he two instruments differ in their objects, when the tunneled ounds and catheters are presented to you, since, without this peculiar modification of the ordinary sound or catheter, the whalebone guide would be worthless.

I hold in my hand the ordinary sound and the tunneled in-strument, in order that by seeing them together, you may have the distinctive characters of each more forcibly presented. The tunneled sound, in the first place, has a hole drilled in its point which opens upon the lower wall of the curve about one-eighth of an inch from the point, thus forming a little canal or tunnel, through which the whalebone guide can pass, if its point be intro-duced into it. It is important in using a tunneled instrument, that the guide, to be used, be first passed completely through the tunnel, in order to see if its diameter be not too large for the

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hole; and also care should be taken to guard against the edges of the orifice in the instrument being sharp, as they may cut the guide and leave a portion of the instrument within the urethra—an accident, which is of a most serious nature. In using a tunneled instrument, whether it be a sound or catheter, the guide is first passed completely to the bladder, and the protruding end of the guide is then slipped through the opening in the point of the instrument and grasped as it escapes from the opposite opening. Thus you have two instruments to handle at the same time; the first being the whalebone guide, which should remain immovable, and secondly, the tunneled sound or catheter, whose end slips along the guide as it passes down the urethral canal. The tunneled catheter is, as you see, a hollow instrument, and has its eye, through which the urine has to escape, placed somewhat farther back than in the ordinary catheter on account of the point being adapted to be used over a guide, while the sound which I have just shown you, is a solid instrument, and is designed alone as a dilator of urethral constrictions.

I have taken the opportunity of deferring the description of these instruments till the treatment of tight strictures should be reached, for the reason that they are specially designed for the relief of such cases, and are of no particular value where the caliber of the stricture will admit a No. 10 instrument; since the point, by that time, becomes so rounded and blunt as to be incapable of doing serious injury, unless force should be used, which can never make up for a lack of skill and which should always be deprecated. When I see any operator use force in urethral surgery, I invariably estimate his skill as of a low grade, no matter how high may be his standing in the profession.

There is another point of practical interest connected with tunneled instruments, which may explain why so many, who use them, make bungling work of it, and often fail in their efforts. I refer to the curve of the instrument. This curve should always be much shorter, and an arc of a much larger circle, than that of ordinary sounds, not to speak of prostatic catheters, whose curve is extreme. The reason for this alteration in the curve is this—that in all periods of the passage of the tunneled instrument, it is of vital importance that the operator be enabled to

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ontrol the point of the sound or catheter without having it bind pon the guide and thus be mechanically arrested. Now when he curve of the instrument is a great one, the guide becomes so edged against the long curve that it becomes impossible to con-rol the point of the instrument in such a manner as to disengage he guide, and the consequence is that the guide is either cut or roken, if force be used, or that further progress of the tunneled nstrument becomes impossible.

I have spent the greater portion of the hour in describing to ou the instruments used in the treatment of tight strictures, nd we can now intelligently study the treatment of the most evere form of stricture which the specialist meets with, viz., raumatic stricture of the deep urethra.

Strictures of this character are commonly the result of bruis-ng of the urethra or laceration of its walls. They occur from lows received in the perineum, from falls upon some projecting ar or pointed instrument which produces injury to the deeper arts, from the injuries received during the employment of instru-ents by unskillful hands, from rupture of the urethra and the loughing which usually follows it, and from transverse incisions* n the urethral walls. One of the worst strictures which I have ver met with was originally produced by a kick in the perineum, eceived during a quarrel; and another was produced by being npaled upon a sharp upright stick, during an attempt of the atient to jump over it. I once saw a case where the king-bolt f a cart was driven completely through the perineum into the ladder, tearing the membranous portion of the urethra and thus roducing a most severe type of trouble later on.

It is the rule, after any accident which injures the urethra in s deeper portions, that the amount of induration, in the urethral alls and the tissues adjacent to the canal, becomes so extensive hat all attempts at dilatation of the stricture are of no avail. Should the case happen to yield to such efforts, the constant pas-age of sounds at regular intervals during the life of the patient nay keep the canal pervious, and thus save him the risk of a

* It is now well proven that transverse incisions of the urethra tend to create contraction, hich is not the case with longitudinal incisions; hence a rule to be followed in all cutting perations, viz., to divide the urethra in its longitudinal axis.

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cutting operation which itself usually requires subsequent care and attention to the seat of stricture to prevent its return. I never advise a patient to become the subject of the knife, whether used within or without the urethra, until the most persistent attempts at dilatation have proven unavailing; as, despite the statements of many to the contrary, I have found the dangers to the patient to be far greater when the knife was used than when the stricture was dilated.* It is for the relief then of those cases, where traumatic strictures have withstood all attempts at dilatation, that the operation which I shall now describe is indicated. I say "of traumatic strictures," since it is seldom, in my experience, that strictures not due to traumatism fail to respond to skillfully applied efforts to bring them up to the normal urethral caliber by the process of gradual dilatation.

In performing the operation of external perineal urethrotomy, with a guide,† the introduction of the whalebone director should be first passed to the bladder; and it is best to have it at least two feet in length, in order to allow of its withdrawal for a short distance, in case the progress of the staff upon it becomes obstructed by its becoming bent, or for other reasons. This same rule applies, with equal force, to all those operations within the urethra, where whalebone guides are used. This step is frequently the most difficult part of the operation, and no time should ever be begrudged, which is used in repeated attempts at introducing it.

Various devices are often required to facilitate this first step, among which may be mentioned the *bending of the point* at an *acute angle* with the shaft, so as to enable the operator to reach all points on the circumference of the urethra by simply rotating the shaft of the guide after its tip rests upon the face of the stricture; giving the inserted end a *spiral form*, so as to worm its way through a tortuous canal; and *filling the urethra* up with these guides, when, by trying different ones, the bladder may be entered and the rest then withdrawn.

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* See my article on the dangers of urethrotomy in *N. Y. Med. Jour.*, Aug. and Sept., 1880.

† The originality of the tunneled instrument, upon which the success of this operation so much depends, is a matter of dispute between Prof. Van Buren and Prof. Gouley—both of New York City.

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When the guide has been successfully passed, the patient should be anæsthetized and placed in the lithotomy position, with the wrists and ankles tied firmly together. The perineum should be then shaved, as the hairs may get between the lips of the wound and interfere with the complete union of its edges. A staff with a deep groove, and tunneled so as to be passed over the whalebone guide, is now introduced into the urethra and slid down upon the guide, as far as the anterior face of the stricture which is to be divided. This staff should be of as large a size as urethra will admit, and the groove should be sufficiently deep so as to be easily felt through the walls of the urethra, as it is a guide to the operator in dividing the urethra and thus exposing its mucous membrane and the staff which it contains.

Before the incision in the perineum is made, the staff should be entrusted to a skillful assistant, with instructions to hold it so that the groove shall be directed forward toward the operator. The surgeon should sit upon a low stool, so as to be on a plane below that of the perineum of the patient, and the external incision should be made at such a point in the median line of the perineum as to allow the urethra, when reached, to be opened slightly in front of the stricture upon the groove in the staff. The walls of the incised urethra should now be caught up and transfixed by needles threaded with strong silk, and the ends of each thread should be tied, thus forming a loop by which an assistant upon either side, can retract the urethral opening and thus expose the black whalebone guide as it lies in the urethra. The staff should now be withdrawn for a short distance, so as to more clearly expose the orifice of the stricture, and the tissues enveloping the guide should be divided with the instrument which I now hold in my hand; which, as you see, is a small blade, and, upon its point, a blunt olive pointed tip.* This knife can be crowded alongside of the guide within the grasp of the stricture, and then made to cut its way outward. A series of such cuts are often demanded to ensure the complete division of very long constrictions, and the appearance of the whalebone guide throughout the entire length of the wound tells the operator that the

* Called *a beaked bistoury*.

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urethra itself has been opened. The staff is now slid along the guide, and any obstacles to its entrance into the bladder are severed; and, after it enters the bladder the staff and guide can both be withdrawn. All barriers to the escape of urine through the perineal wound should now be carefully divided, as otherwise, *pockets* may be left which shall tend to create infiltration of the urine into the surrounding parts; an accident which is liable to cause abscess and sloughing.

For the first few days, the urine will probably pass entirely through the wound in the perineum; but, as the wound tends to granulate, the escape will become gradually less, and finally cease altogether. A full sized sound should be passed, at intervals of two days, to the bladder through the meatus; the upper wall of the urethra, which is still intact, being used as a guide over which the point of the sound may be made to pass and thus be directed into the normal passage. This should be kept up until the perineal opening be entirely healed, when the patient should be taught to pass the same instrument and instructed so to do every week at least during the remainder of his life, if he wishes to guard against a recontraction of the stricture. No catheter should be tied into the bladder during the repair of the wound.

It is a point of no small importance that the scrotum should be supported, from the date of the operation until the perineal wound is practically closed, upon a broad strip of adhesive plaster extending from thigh to thigh, and notched in the centre, so as to more perfectly fit tho contour of the parts. By this step, the danger of infiltration of urine into the cellular tissue of the scrotum is avoided, and thus a serious and not infrequent complication is rendered impossible.

I have seen fit to read to you, in closing this lecture, the records of two cases from my case book, in order that the average duration of the convalescence may be appreciated, and that the latter danger, which occurred in one of them, may be impressed upon your memories. It must not be inferred, however, that all of the cases so treated recover. I think that the records of a large number of reported cases show a mortality of about five per cent.; and that rigors, abscess, and the imperfect

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losure of the perineal opening, make the operation one of no mall danger to the patient. It is to my mind a question, however, whether the result of this method of treatment does not fford the patient a better chance of recovery than the operation f internal urethrotomy, when performed beyond the depth of *our inches* from the meatus, as the hæmorrhage, which may ccur, is more easily controlled, and as the danger of extravasaion, which is very great in the internal method, is of rare occurence in the external method, if the precautions before mentioned re carefully followed.*

G. B. K., thirty-seven years of age. The patient has had one ttack of gonorrhœa, some fifteen years ago, but recovered in a hort time. Some twelve years ago, he fell with one leg down a oal hole and struck upon his perineum. The parts swelled apidly and an attack of retention of urine followed, which esisted all attempts then made to relieve it, by the use of instruments, but, after the prolonged use of hot hip baths, the urine as passed spontaneously in drops. During the following two eeks, symptoms of a developing perineal abscess made their ppearance, which eventually opened spontaneously, and after he pus was evacuated, the existence of a urethral fistula was iscovered. This fistula healed without any special treatment, nd the urinary stream gradually increased in size so that the atient has managed to empty his bladder with comparative comort until within two years, when he began to experience marked nnoyance from a constant desire to pass urine and from well narked pain at the seat of his former injury, during the act of micturition.

It was for this condition, and for a stricture which withstood ll attempts of his medical attendant, that he sought my advice. An examination of the urethra shows a long and tortuous stricture, situated at six and a quarter inches from the meatus, and ssociated with marked induration which could be detected hrough the perineum. A whalebone guide, which had been

* Since this lecture was delivered, I have endeavored to demonstrate to the profession that hese views, which I then held, are sustained by the facts. In my article published in the *N.Y. fed. Journal* during the months of August and September, 1880, the deductions showed a perentage of death in the two operations to be about equal, and the ratio of complications, in the peration of internal urethrotomy, to vastly exceed those of perineal section.

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given a spiral curve at its inserted end before introduction, was successfully passed to the bladder, but, as the stricture was of traumatic origin and cartilaginous in type, I deemed the operation of perineal section advisable.*

June 8th.—The operation of perineal section was this morning performed (the patient having been kept in bed for three days and my usual preparatory treatment having been followed) (see the record of following case), a staff with a deep groove being passed over a whalebone guide, which had first been introduced to the bladder, as far as the anterior face of the stricture, and the urethra being first opened upon the staff and therefore anterior to the situation of the stricture, and subsequently incised from before backward with a small beaked bistoury.

June 9th.—Through a displacement of the apparatus by which the scrotum was suspended,† a slight infiltration of the urine has taken place into the scrotum, requiring an incision to allow of a free escape of the imprisoned urine, and thus to avoid the extensive sloughing which often follows this accident, unless promptly relieved. The entire contents of the bladder passes through the wound in the perineum, requiring a sponge to be retained over that region by a "T" bandage. A full sized sound was passed to the bladder, the upper wall of the urethra being used as a guide for the instrument. Bowels moved by a dose of castor oil.

June 13th.—No change has occurred since last note, except that the wound has been granulating nicely and that sounds have been passed every other day. The temperature has not exceeded 100, nor have there been any chills or symptoms of nervous disturbance.

July 1st.—The perineal wound still remains open and a slight escape of urine is occasionally perceived from the fistulous tract. Sounds have been passed every other day and the urethra is now dilated to its full capacity. All the symptoms of infiltration of the scrotum have disappeared, and the patient is moving about the house with comparative comfort. The frequency of micturition has ceased so that the urine is retained for the normal periods.

* It is a well known fact in urethral surgery that strictures of a traumatic origin are seldom dilatable, and, if so, are extremely liable to rapidly return to their former condition.

† A broad strip of adhesive plaster extending from thigh to thigh beneath the scrotum.

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July 15th.—The wound seems now to have completely closed, nd the urine passes completely through the urethra without any pparent obstruction. Sounds are still passed at intervals, and nstruction are given the patient to enable him to pass a full-sized ound to the bladder without creating irritation.

July 25th.—Patient is pronounced cured and is instructed to ontinue the passage of his sound at intervals of seven days, in rder to prevent the return of the stricture, as a marked tendency o recontraction is usually present in cases of this character, here the induration of the urethra has been excessive and the ause of the stricture traumatic.

G. S., 27 years of age. Patient has had two attacks of go- orrhœa, but cannot definitely state the year in which they ccurred. He is certain that neither lasted more than a month nd that they yielded to mild injections.

About three months before he consulted me he fell across an ron bar, striking upon the perineum, but causing no injury to is testicles. An attack of retention of urine followed soon after he accident and continued for some hours, when, at the advice f his physician, he was relieved by the use of injections of hot ater into the rectum and of hot hip-baths. Small clots of blood ollowed the first successful attempts to pass urine, and for some en days a flexible catheter was passed to the bladder several imes a day, as the bladder seemed to act feebly. At the end of his period a small tumor of the perineum appeared, which burst nd left a fistulus tract through which urine escaped. A greater ortion of the urine however continued to pass through the natu- al channel, as his physician introduced elastic bougies of gradu- lly increasing sizes, and the patient was finally ordered by his hysician to continue the use of the largest size which could then e passed. He however neglected this precaution till the stream ecame of extremely small size, when, becoming alarmed at the rospect of a return of the attack of retention, and finding the fforts of his physician to again dilate the stricture fruitless, he pplied to me for operation.

An examination of the urethra, at this time, showed the fol- owing condition to exist: Meatus, very small, admitting only No. 8; a No. 4 bulbous bougie is arrested at four inches; a

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No. 3 bulbous bougie is arrested at four and one-half inches; and nothing but a whalebone guide can be passed from that point to the bladder. The stream of urine is of the size of the smallest bougie, but is projected with considerable force. As the case was one which evidently demanded the operation of perineal section, and as such a step would hardly be justified without a preparatory treatment, save in cases of emergency, I ordered rest in bed, hot hip-baths morning and evening, and the internal administration of the infusion of doggrass, and the iron and bromide of potash mixture, which it is my custom to employ in such cases.*

June 10th.—A large dose of castor oil is given to day, preparatory to the operation, as the patient has now had four days of confinement to bed and the other steps of preparation have been faithfully carried out. A second examination of the urethra to-day reveals very marked induration in the vicinity of the peno-scrotal junction and extending backward into the perineum.

June 11th.—After anæsthetizing the patient, a whalebone guide was passed without much difficulty at the second attempt, a spiral curve being given to the end of the instrument. The meatus required division, in order to allow of the introduction of a tunneled staff of sufficiently large size to be easily felt in the perineum, and a staff corresponding to a No. 10 sound was then passed down till it rested upon the anterior face of the stricture. It was found that the first incision would have to be started about one inch higher up than is usually required for strictures of the deep urethra, in order to open the urethra in front of the stricture, where the groove on the staff acted as the guide to the operator. No special point of interest presented itself save the difficulty in dividing the indurated tissues and exposing the black whalebone guide, which were extremely dense and rendered the wide separation of the edges of the wound difficult. After completely dividing the stricture, the staff was slid along the guide and all obstacles to its free entrance into the bladder divided.

* The infusion of doggrass (Triticum Repens) was first brought to my notice by Prof. Gouley, who had used it for some time as a diuretic. It is given in large doses, and as much as a pint or two being given in twenty-four hours The other mixture mentioned is as follows:

R. Tr. Ferri Mur. one ounce; Sol. Pot. Brom. (saturated) three ounces; Sig. one drachm in water, after meals. It acts as a tonic and diuretic, and also exerts a special anæsthetic influence on the urinary passages.

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The tunneled staff and its guide were then withdrawn, a full sized sound was passed without any obstruction being detected.

June 12th.—Pulse 100; temperature 99¼; respiration 20. One ounce of urine passed through the urethra during the night. General condition excellent.

June 13th.—Full sized sound passed to bladder. A slight hæmorrhage from the perineal opening occurred last night, which was arrested by digital compression over the wound. Temperature 99.

June 14th.—No urine has passed through the penis since the first night after the operation, probably on account of the swelling of the tissues. The patient has no evidences of fever, and passes urine only three or four times during the twenty-four hours.

June 18th.—Urine now begins to escape by the natural channel; the wound is granulating rapidly. Sounds are passed every other day.

June 19th.—Patient passes almost all of the urine by the urethra, and is able to sit up all day in an easy chair.

June 26th.—Since the last note, the perineal wound has been fast closing, and now little if any urine escapes in that direction. The strength is fast approaching the normal standard and the patient walks about without discomfort.

July 15th.—To-day the patient demonstrated his ability to pass a large sized sound upon himself and is pronounced cured. He is ordered to continue the use of instruments, at intervals of a week, for the rest of his life, to prevent reconstruction of the stricture.

ARTICLE IV.

A CASE OF UTERINE CANCER.

By CHARLES T. PARKES, M.D.
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The fact that Listerism robs abdominal surgery of all its former terrors and fatality, frees the surgeon's mind from great anxiety with reference to such operations and enables him to give favorable prognoses in the most formidable and unfavorable cases

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applying for aid, is well established by the results of the practice of such men as Lister, Wells, Keith, Thornton, Volkman, and others.

Antiseptic exploratory section of the abdominal walls, can safely and properly be made use of, in all such cases where external manipulation and examination fail to determine absolutely the condition of the parts affected with disease.

Unrelieved intestinal obstruction and perforating wounds of the abdomen heretofore considered necessarily fatal, will in time be treated by such section for relief with the certainty of complete success following the interference, if done under full antiseptic precautions.

The following interesting case is one of the many isolated examples, all the time coming to the notice of the profession, in proof of the safety and innocuousness conferred by the method of Lister upon abdominal operations, and the successful results of which urge upon the profession the necessity of becoming more thoroughly acquainted with, and more carefully practicing antiseptic procedures.

This history of the case is transcribed from the records as taken by Dr. E. M. Landis, house physician to St. Joseph's Hospital, and confirmed by myself.

Mrs. Anna Eckhart, age 38, born in Germany, married 15 years, and, including three miscarriages, confined eleven times in eleven years—eight living children. No hereditary disease or predisposition thereto in her family that she is cognizant of. Father died at 75 years of heart disease, and mother still living at also 75 years. Grandparents also lived to old age. Up to the time of her present illness, was always healthy, and not unduly exposed by hardship or other conditions, to circumstances favorable to contraction of disease. Weighed 197 lbs. when in health.

The patient was admitted to St. Joseph's, July 11th 1880, suffering from hœmorrhages from the womb, with severe pain in the region of the pelvis, a constant discharge of a large amount of foul smelling ichorous pus from the vagina, and other history of malignant disease of the womb.

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Digital examination disclosed the upper half of vagina filled ith a soft mass of foreign growth as large as an orange, very iable, and easily made to bleed profusely. The finger could be ade to pass beyond the growth, along the anterior vaginal wall, nto a cavity, the top of which could not be reached. Posteriorly he touch was stopped at the cervico-vaginal junction. The peculum merely confirmed the touch, showing the growth to be ell proliferation from a cavity above into the vagina.

Diagnosis.—Cancer of the uterus, probably growing from the osterior wall of body and cervix, probably epitheliomatous.

Treatment.—Sol. ferri persulphate applied to control bleeding, nd repeated irrigation with 1 to 40 solution of carbolic acid to ontrol fetor; tonics and iron to correct anæmia and increase trength. Patient shows well marked cachexia, wax-like ears, uasi-œdematous appearance of the skin.

Previous History of Disease and Treatment.—Up to July 0th, 1879, she had been apparently in good health. Her enses had been regular and orderly until fourteen days previous o the above date. On July 20th, 1879, she had a severe hæmor-hage from the womb, and at first thought she was having a mis-arriage. Fourteen days later, or at the time of her menstrual ow, she had another severe hæmorrhage. From this time bleed-ng was constant in a greater or less degree, never very profuse, nd unaccompanied with pain. Sunday, four weeks previous to hristmas, 1879, she consulted Dr. Geiger, of Chicago, who, after xamining her, referred her at once to Dr. A. R. Jackson, of hicago. Dr. Jackson informed her that an operation was re-uired for her relief.

She was then admitted to the Mercy Hospital, of Chicago, on anuary 3d, 1880, and on January 8th, at three o'clock p. m., rof. E. W. Jenks performed some operation about the womb, efore the class of the Chicago Medical College.

She says she was told that the Professor removed her womb so ompletely as to leave remaining only the broad ligaments, varies, and a thin portion of the top of the womb, or, as she xpresses it, "bis auf die Mütter Trumpeten."

After recovering from the effects of the operation, she returned o her usual duties.

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Her menstruation came on eight days after the operation, and seemed normal and regular, until the first week in April, 1880, or about three months after the operation, when a slight hæmorrhage and a foul discharge appeared, which, since then, has been constant to the date of present examination, July, 1880. In May, 1880, she first began to suffer pain, which gradually became unbearable without full doses of morphine.

Three weeks previous to admission into St. Joseph's Hospital, she had a third and the most profuse hæmorrhage she has yet suffered. Began to lose flesh and strength from the very commencement of her trouble—still she is far from being emaciated.

The patient has consulted Prof. Jenks several times at his office since the performance of the operation.

The patient was very anxious to undergo any operation that promised any relief whatever from her trouble, and expressed herself as feeling convinced that she could not expect any probability of permanent relief unless the womb and its appendages were removed through the abdominal walls. She was convinced that no operation through the vagina could cure her. The patient was thoroughly acquainted with the fact that no operation promised her radical cure; that it was extremely doubtful whether total extirpation could be at all safely performed after abdominal section, owing to the extensive involvement of the pelvic organs in the disease, but that such section could be safely done, and would settle the possibility of relief from a radical removal; and further, some operation, either total extirpation, if warrantable, by means of abdominal section, or curetting away the mass per vaginam, was necessary to give her a period of relief at least from her pain, and septic inoculation from the foul discharge.

She expressed herself prepared to submit to whatever we concluded to do, and after due consideration, on July 22d, 1880, the patient was etherized, and the following procedures carried out under full and complete antiseptic precautions, in the presence of Drs. Gunn, Bogue, Fitch, Fenger, Etheridge, Bartlett, Landis, and others.

An incision four inches in length was carried through the different layers of the abdominal walls down upon the peritoneum.

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This being opened, and the intestines pushed out of sight, the following condition of the pelvic contents was found:

Practically, the cavity of the pelvis was found obliterated and filled with a dome-like development of foreign growth, which occupied all the irregularities of that cavity, and reached to an elevation on a line with the inlet of the pelvis. Posteriorly there was no cul-de-sac of Douglas. Centrally the entire body of the uterus and its appendages were intact, and raised aloft upon the undergrowing mass of cancerous infiltration. Laterally the mass was as high as the pelvic brim. Anteriorly the top of the bladder only was visible. Several enlarged glands of considerable size were found laterally and posteriorly.

An attempt to remove any such mass of disease was clearly unwarrantable.

The abdominal incision was closed by interrupted sutures and gauze dressings applied with retentive bandage. The patient was then placed in Sim's position, the vagina well opened and retracted, and the foreign mass as completely removed as possible with the scissors, curette, finger and Pacquelin cautery. All friable tissue within reach was carefully and radically scraped away. Thanks to the cautery, this was accomplished with extremely little hæmorrhage.

This operation cleared the vagina entirely, leaving a very shallow rim of what seemed to be a remnant of the cervix uteri at its upper termination. Above the vagina was left an immense cavity, the anterior wall of which seemed to be formed by the posterior wall of the bladder, as the sound in the bladder could be easily located by the finger in the cavity; the roof was formed by the parts already seen and felt through the abdominal walls; posteriorly the finger in the rectum could be located through the cavity. The patient had not a single unfavorable symptom after these surgical procedures, either of which is entitled to an appellation of more gravity than usually goes with the word "simple." On the eleventh day she was out of bed, and on the twelfth she walked down stairs. The abdominal wound healed firmly without any local trouble except a little irritation around one of the lower sutures. The patient improved in strength and appetite, and had no pain and no foul smelling

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discharge. This improvement was only transient, however, for during the month the discharges again became offensive, and the pain returned, so that now, September, 1880, although suffering less than previous to the operation, and although less offensive to herself and others, the signs are none the less positive that the disease is steadily progressing and will be fatal in its issue.

The parts exposed by the abdominal section were examined by several of the gentlemen present, and all remarked the natural and healthy aspect of the body of the uterus, including certainly a small portion of the cervix, as the broad ligaments were intact. Evidently the body of the uterus had never been encroached upon nor invaded by the disease, which had seemingly developed in and about the cervix, and in its development pushed everything else before it.

Since performing the above operation, much to my surprise, I find that the operation performed upon this patient in Mercy Hospital on January the 8th, 1880, has been classified, and referred to in a number of medical periodicals, as one of *recovery* from total extirpation of the uterus per vaginam. Such reference to this successful and radical operation may be found in the *Chicago Medical Gazette*, No. 3, February 5th, 1880, page 55; also in the report of Mercy Hospital Clinics, March 5th, 1880, No. 5, page 116 of same journal; also the last number of Braithwaite's Retrospect Gynæcological Reviews.

Any statistics based upon such report will, of course, possess more than the usual unreliability belonging to an array of figures used to back up any positive course of treatment, or from which conclusions may be drawn.

THE valuable papers abstracted in this JOURNAL from proceedings of the American Medical Association, on "Rest after Delivery" and "Treatment of Peritonitis," were from the pen of Dr. Tauksyn.

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Foreign Correspondence.

ARTICLE V.

Messrs. Editors:—The traveler who desires to study the nature and habits of the various populations of Italy, must travel through certain parts of Lombardy, or Venice, and stop to visit the homes of the country people, examining carefully the physiognomy, acts, and words of those who assemble together on festival days at the church of the village. He will thus be astonished by the strange contrast that reigns between the marvelous fecundity of the surrounding country and the misery that is everywhere apparent. The condition of the miserable cottages, the feebleness of the workingmen, their saddened physiognomy, their slow and tired movements, their serious and melancholic conversation distinguish the agricultural population, and show that, in these places, life is truly sad and full of privations. On the other hand if he has traveled through other parts of Italy, an entirely different contrast is presented to his sight. Elegant and commodious dwellings, surrounded by gardens, provided with all the beauties of nature, happy people, healthy, strong, joyous, songful, and playful, present a contrast so great, that he will not fail to ask the occasion of this monstrous anomaly. This notable diversity which for ethnographic reasons ought not to exist, is explained by the nature of the economic conditions to which the people are subjected. The day workman, always the poor servant of the glebe, is poorly lodged, badly clothed and insufficiently remunerated. His labor does not suffice to feed his family, whose spare diet consists wholly of Indian corn meal mush. Every day the organic balance of the poor classes closes with a deficit, and these daily deficits accumulating, result in impoverishment. Little by little the forces fail, all the functions of the

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body become enfeebled, and the effects of chronic famine are manifest in the terrible *pellagra* which closes the mournful scene. By it the country is depopulated, and the hospitals, the insane asylums, and the cemeteries filled. Italy is the classic country of pellagra. The first study of the disease was made by Dr. Casal, in the year 1735. He called it *rose disease*, from the color that the patient's skin acquires, principally on the dorsum of the hands. A. Pajati studied it about the year 1740 and named it *Alpine scurvy*. In 1740 the pellagra was so much diffused through Italy, that many works on it were written, among them those of Frapolli, physician of the Hospital at Milan. At that time a hospital was founded by Dr. Scambio, exclusively for the treatment of pellagra, wherever this disease prevailed. The extensive cultivation of maize or Indian corn was recognized, and this article was found to be the exclusive diet of that class of inhabitants among whom pellagra became developed. From this it was concluded that Indian corn was the prime cause of the disease. But special conditions are most always present at the crisis of the disease, such as fatigue under the heat of the sun; filthiness of persons and houses; frequent use of acrid oils and irritable vegetables, as garlic and onions; lastly, the scarcity of meats, milk, wines, etc. In 1830, the number of patients affected with this disease in Lombardy alone, amounted to over twenty thousand. In 1856 the number increased to thirty thousand. In 1880 eighty thousand were registered, and in all Italy Dr. Lambroso assures us that no less than five hundred thousand are affected with pellagra. What is to be done to put a stop to this horrible plague? The pauperism of the agricultural class should be remedied in order to remove the cause, and till this is done thousands will fall victims to the pellagra. The Government in this matter can accomplish much.

Some cases of Bright's disease were brought to the clinic this year. In six, the course of the disease has been followed with exactness, noting the daily quantity of urine and albumen, the other principal phenomena and the influence of the various methods of treatment. Special methods were tried, and some of the remedies being quite new, deserve attention, more especially as regards their effects, since the treatment of Bright's disease often improved the condition of the patient and arrested the morbid pro-

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cess. Chronic Bright's disease, untreated, generally does not improve; therefore it must be excluded from the category of those diseases that sometimes present spontaneous relief. It was noted by Prof. DeRenzi that the patients in the first days after their entrance to the clinic, or when the treatment is interrupted, readily secrete a greater quantity of urine. But there are some exceptions. Fuchsine, recently introduced in the treatment of Bright's disease, produced a sensible diminution of albumen. In clinic it was used under two forms, diluted with water and added to an extract in pillular mass, each of two and one-half centigr. As the intense coloring of the water with fuchsine is objectionable, the pill form is to be preferred. The daily dose of fuchsine may be far greater than that thus far advocated in the treatment of the disease. Ordinarily a small dose of five centigr. was gradually increased to twenty-five centigr. in twenty-four hours. No remarkable physiological action of the fuchsine on the principal functions of the organism has been discovered. According to the dose, the urine commences to present a more or less reddish tint, persisting during all the time of treatment. Generally the latter acquires such a tint about five days after administering the remedy, and loses it about three to five days after suspending the fuchsine. Very often in Bright's disease the urine shows some mucus, and then the fuchsine is of great benefit, the mucus disappearing from the urine. The mucous membranes of the digestive tract become intensely colored by the drug, and the plasma of the blood shows a well-marked coloring. The quantity of hæmoglobin in the blood, and the chromometric grade were examined with the apparatus of Bizzozero, and it became evident that the chromometric grade corresponded to a quantity of coloring matter in the sanguineous plasma, which far surpassed the proportion of hæmoglobin. Evidently, therefore, the more intense coloring is not due to an augment of hæmoglobin, but rather to the dissolution of the fuchsine in the blood. Many consecutive observations have confirmed, according to Prof. DeRenzi, the efficacy of fuchsine as a remedy for Bright's disease. In exceptional cases, where fuchsine does not avail, its presence in the urine is wanting, and the red coloring notably absent. Therefore, when, after some days of treatment with the fuchsine, the urine does not become red, the existence of some obscure alterations of the kid-

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neys must be admitted. Besides fuchsine, other methods have been used, mainly repose in bed, as efficacious means of diminishing the increase of albumen, and to this is added the milk diet. Apomorphine has been generally well tolerated and prescribed in higher doses than those ordinarily given, five to six centigr. daily without the least disturbance. In one case under this remedy the patient's state ameliorated considerably. As a therapeutical remedy the Professor had used the hæmoglobin prepared by Grinon, according to the process of Dr. Lebou, for the treatment of globular anæmia and the absence of hæmoglobin in the blood. So far the observations have been insufficient; but in one case the red blood corpuscles had considerably increased after the use of the hæmoglobin.

Piperine and oil of *eucalyptus globulus* have been largely tried for intermittent fever and tumor of the spleen. The former was largely advocated by Celsus, Dioscorides, Müller, Franck, Altdœfer, Riedmiller, Pettagua, etc. The action of the latter has also been studied by Weber, Gubler, Ullersperger, Tristany, Lambert, Lovinser, Kesser, Mossler, and Gimbert. But the observations in clinic did not furnish such good results as those lauded by these authors, having been found far inferior to those of quinine. As a great number of practitioners attributed either to the piperine, or to the eucalpytus taken separately, a strong anti-febrile action, the two remedies were used together. The formula of Mossler was preferred, that recommended for the the treatment of leukæmia, that is both remedies combined in pill form, each pill consisting of one drop of oil of eucalyptus and four centigr. of piperine. The efficacy of the eucalyptus associated with the piperine was soon confirmed, but yet did not equal that of quinine. The results were good, however, and the Professor did not hesitate to admit that the two combined remedies, eucalyptus and piperine, were the most potent articles next to quinine.

Just at this moment of closing, my eye has fallen on the following in the "Caffaro," of Genoa: "Naples, 11th. Yesterday in Fontana dei Serpi, on Pendino Street, a woman, called *Concetta la Pavattiera*, gave birth to six little creatures, four dead, and two living!"

A. LAGORIO, M.D.

CHIAVARI, Italy, Aug. 14, 1880.

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Domestic Correspondence.

ARTICLE VI.

NEW YORK LETTER.

Messrs. Editors :—There is a young man over in Brooklyn by the name of Livingstone, who is trying to outdo Tanner. He claims to have fasted before, and to have shown his physical endurance by walking some thousands of quarter miles in an equal number of quarter hours. He has not as yet attracted the attention of the public; neither has the medical profession shown any interest in his performance, although the opportunity to get a name in the papers is too good to be long neglected. But the people are tired of Tanner and his ways; and no amount of exhibitions will ever make one meal a day popular in New York. The once immaculate Tanner, by the way, went into a grocery store last week and weighed himself. He tipped the scales at 157 pounds, which is only half a pound less than before his fast. Finding himself so thoroughly recovered, he advertised a lecture in Booth's theatre on "What I know about Fasting." He was introduced to a thin audience by a medical Eclectic light of the name of Gunn. Dr. Tanner then delivered himself of some choice diatribes against all doctors in general, and regular doctors in particular. He would have all his audience give up medicine forever and recuperate on oxygen, water and animal electricity. Dr. Tanner, I should judge, has much vituperative power and a very lively scientific imagination, and neither the absence of solid food or of professional sympathy can curtail his infinite vivacity. It is much to be hoped that he will now marry Miss Mollie Fancher, the fasting girl, and go into a trance.

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The last hot wave left our city a week ago, and the cool breezes are now bringing back our doctors and their patients. New York seems to empty itself into the country more and more every summer; and at the same time to have more people than ever to stay and take their chances with the sun. By August, it may be a decided misfortune if one who remains in the city falls suddenly in need of a doctor. A case in hand has just been told me. Dr. A went out of the city and left his patients with Dr. B.; Dr. B left his with Dr. C, and Dr. C was suddenly called away and left the whole lot to the gentle mercy of nobody in particular. A patient of Dr. A's was taken ill; she sent around to A and B and C; of course to no purpose. She then sent for a fourth physician, who was also out of town, and finally to a fifth who sent back word that he was just on his way to catch the train and could not call. By this time the lady was quite comfortable and concluded to get along without a doctor.

The mortality in New York has, like the heat, been something extraordinary. The ordinary mortality rate of the city is a pretty high one, being from 25 to 28 per 1,000. In the week ending June 12, it was 25.13; then it began to rise. In the week ending June 26, it was 44.97, while the reported mortality for the week ending July 3, was 56.20 per 1,000. This is a very much larger rate than occurs in any other city in this country or abroad, so far as statistical returns show. There were during that week 1,297 deaths, of which two-thirds were of children under the age of five years, and one-half, of children under the age of one year. About two-thirds of the children that died lived in the tenement houses. But it is a somewhat singular fact that the proportion of deaths in these houses was not greatly changed. That is to say, about two-thirds of the deaths in the city occur in the tenement houses all the year round whether it is hot or cold. It shows that the great cause of the deaths is the intense heat, and that a baby is not much safer from it up on Fifth Avenue than down in the slums about Mulberry Street. A great deal is done by the city and by charitable people to give the children relief, and the sea-side sanitaria, the free excursions into the country and upon the water, are among the best known and most useful of New York's many charities.

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We are just now having a few innovations. The city has established a night medical service, so that strangers or any one needing immediate medical help can be at once supplied. The names of about 300 physicians have been sent in to the Police Board. These have been divided into smaller lists each one including all the physicians living in a single precinct. The lists are posted in the various police stations and if a person is taken suddenly sick in the night he sends them for a doctor. The fee for a night call of this kind is $3. In Paris, where the service originated, and where it is said to have proved useful, there are, I believe, ten or twenty calls every night. This is not a very large number for two millions of people, and New York cannot expect so many even as this. The new service is not likely to enrich the physician very much, and it is very doubtful whether humanity demanded it. New York is pretty well peppered with physicians everywhere, and most of them are willing enough to respond to night-calls. Nobody can go to a police station (provided he knows where it is—which few do) without passing half a dozen doctors' signs at least. The New York Night Medical Service has a humane and sonorous sound, but it appears very much like a piece of supererogation. However, it may succeed, in which case Chicago can benefit by the example.

Another little performance, which we are now carrying on, is that of registration. The work of signing the name, taking an oath, and paying from twenty-five to seventy-five cents, according to each doctor's special gullibility in the hands of the county clerk, is proceeding very briskly. It must be finished by October 1, but there are still 1,500 or more doctors to register and only two weeks to do it in. There must be some left over; and then there will be a wail over the $20 fine incurred. The measure is a popular one among regular physicians, as it obliges every man who hangs out his sign as a doctor to show his authority for doing so. This he does by swearing that he has a diploma or license from a reputable college or chartered medical society. Of course anybody can swear to this, and it must depend on others, who are on the watch, to find him out. We expect our county medical society to do the work here, and I have a great deal of confidence that they will do it well. There are some very active

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and wide-awake men on the censorship committee. If the city officials stand by the law, it is to be expected that there will be lively times among the charlatans, abortionists, magnetic doctors, etc., of the city. The Homœopathic Medical College has, it is rumored, done a very magnanimous thing. The new law provides that hereafter any person who comes into the State to practice must first have his diploma or license examined and endorsed by some regularly incorporated medical college in the State. For this indorsement the sum of $20 is to be paid. The Homœopathic Medical College offers to furnish this indorsement for nothing! Whether this is pure benevolence, a desire to advertise, or an ambition to increase the adherents of homœopathy in the State I dare not say.

I wrote sometime ago about a novel rhinoplastic operation which Dr. Sabine performed upon a patient at Bellevue Hospital. The boy had lost his nose, and to replace it, the middle finger of the left hand was sewed on and then amputated from the hand. I have seen the boy since. He is still far from handsome, but the finger stays on and the general health is good. The tip of the finger failed to unite, however, and after the amputation there was some suppuration and part of the first phalanx necrosed and came away. So that the end of the new organ lacks something of the rounded symmetry of nature. And as a whole it has a little of a foreign air; it does not seem to feel thoroughly at home in its new surroundings. But "Tommy," the patient, is pleased and has confidence in the nose of the future and the efficacy of future operations. It is intended to sew up the top of the nose again, to construct some nostrils and add various other little touches in the interests of plastic surgery, high art and of a most exemplary patient.

The colleges are beginning their annual courses and medical students are pouring into town, gladdening the heart of the boarding-house keeper. Bellevue Hospital Medical College began its regular term Sept. 15, and it contiues for six months. The University Medical College begins its preliminary course on the 15, and its regular course Oct. 1. This is the only one of the three large colleges which has shown no regard to the now general demand for longer annual courses, and more of them.

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It sticks to its old system, and perhaps deservedly, has the reputation of sending out the biggest and the worst medical classes every year. But it will have to yield bye and bye. By chance, I have learned of several country physicians who have heretofore been in the habit of sending their pupils to the university. They now intend to make a change and send them elsewhere. The college has excellent instructors, and is as well equipped as its rivals; but it ought to show a higher ambition than that of graduating the largest class of doctors in the city. The College of Physicians and Surgeons has done something in the line of higher education. Its annual course is now seven months, instead of five, lasting from October 1st into May. It recommends in italics that all students attend three courses of lectures, but it has not the moral courage to compel the plan, and its adoption of a long course rather indicates that it does not intend to do anything of the kind.

There has sprung up in the last three or four years something like a new industry, in the line of medical education. It is the system of "cram-quizes." For many years there have been two or three physicians—oftener a less number—who have taken students intending to compete for the positions in the hospitals, and have put them through a six months' "cram," working them at the highest possible pressure. This method turned out, at the end of the half year, young men so thoroughly informed in every point, so ready and well drilled that the ordinary student had no chance against them. It gradually became a necessity, in order to get a hospital position, to go through a "cram-quiz." The fee for half-a-year's cramming was $100; and if the quiz-master had a dozen or two pupils, as he generally did, the profit was a very respectable, though a well-earned one. Quizzing having thus become profitable, has now become very popular. Where there were only two or three notices on the bulletin-boards, there are now a dozen. The number of pupils has largely increased also. This is partly because there are more hospital positions than formerly, and partly because many of the quiz-masters take students and cram them for the college examinations only. The quiz system is, of course, liable to abuse, and occasionally a student gets permanently injured by the strain

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it puts upon him. They often cause a neglect of the didactic lectures also, which is not, however, always a misfortune. But whatever the danger of abuse, it cannot be doubted that there is nothing which compels study, trains the attention, and disciplines the memory like a cram-quiz, if, as is generally the case, the preceptor is alive and the pupils are ambitious. It is a fact useful to be noted, in the cause of higher education, that in the competitions for the hospitals, competitions in which the best men of all the colleges enter, those who have had a previous academic training almost uniformly come out ahead. Five-sixths of the house-staffs on the large city hospitals are bachelors or masters of arts. In these days, when the practical value of a classical education is so often doubted, I for one am glad to furnish a little evidence in its favor.

NEW YORK, Sept. 15, 1880.

Le Journal d'Hygiène, according to the *Revue Médicale Française et Etrangère*, reports three cases of absolute but temporary impotence arising from the use of salicylate of sodium, the dose being only from three to four grams in the twenty-four hours.

Says the *Journal d'Hygiene:* "These attacks on virility are the more important as without our knowledge we are daily taking the salicylate of sodium in our food and drinks, as in the butter, beer, wine, preserves, and that a man may thus unconsciously do a serious injury to his wife. If the fact is confirmed, the salicylate of sodium will become a source of disorder in the family."

DR. MARY J. MERGLER has returned to the city, after a year's study at the University of Zurich, and has entered upon the practice of her profession. She has also resumed her work at the Woman's Medical College, as Assistant to the Chair of Materia Medica and Therapeutics. The valuable quality of her work in the field of histology has been appreciated in this city.

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Reviews and Book Notices.

ARTICLE VII.—NEURALGIA: ITS NATURE AND CURATIVE TREATMENT. By THOMAS STRETCH DOWSE, M.D., F.R.C.P., Edin. London: Bailliere, Tindall & Cox; 1880.

This work is offered as the second volume of a series on "Diseases of the Brain and Nerves," the first volume of which, on "Syphilis of the Brain," appeared during the past year and has, we believe, been republished in this country. Its inclusion in this series seems to have been an afterthought of the author, who in a manner apologizes for the fact. As regards the scope and style of the work, he says: "If the reader expects to find, in the following pages, any vague and speculative theories relative to the pathology of neuralgia, he will be greatly mistaken. Yet the author hopes that the reader will find therein the great question relative to the practical and curative treatment of neuralgia discussed in a simple, comprehensive and concise manner."

His ideas on the pathology of the disease are, however, vague enough if not speculative; they seem to be based on Romberg's epigrammatic saying that it is "the prayer of the nerve for healthy blood," a statement altogether more rhetorical than scientific, and one which, however captivating it may sound, is a very inadequate expression of the true facts of the pathology of neuralgia. Our author defines neuralgia as "a diseased condition of the blood and tissues of the body, and a condition which causes a more or less definite and localized painful affection of the nerves." This is certainly vague and inaccurate enough, and we do not find, in the succeeding paragraphs, any good evidence of very clear ideas on the real conditions in neuralgia. The author's disclaimer, therefore, of any special claims as a theoretical path-

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ologist is well supported, and his characteristics in this respect are noticeable throughout the book.

On the practical side of neuralgia the author is much more satisfactory. He follows a very elaborate classification of the forms of neuralgia, giving illustrative cases under each head, with some generally very sensible and practical remarks on each variety. We notice here, however, what is perhaps an excess of faith in the treatment employed, nearly every clinical history being headed "cured by" this or that remedy. His treatment is also in some particulars what would be deemed in this country heroic; thus he advises one-fourth or one-half of a grain of morphia with one-twentieth or one-fortieth of a grain of atropia for a hypodermic injection, and one-half to one grain of morphia for a single beginning dose internally, without any caution or specification as to idiosyncracy or previous accustomation to the drug. But the reader will find this part of the book—and it really amounts to about the whole of it—full of useful, practical suggestions, some of which may be novel. The work is on this account well worthy of perusal and we recommend it, not as supplanting, but as supplementary to other more scientific treatises on its subject. H. M. B.

ARTICLE VIII.—A MANUAL OF SURGERY. By T. FAIRLIE CLARKE, Assistant Surgeon to Charing Cross Hospital. Wm. Wood & Co., 1879.

This, as the title implies, is a handbook for the general practitioner, and contains a little of everything pertaining to surgery.

The book is thoroughly revised and improved by an American Surgeon, whose additions here and there bring the work fully up to date.

The additions are inclosed in brackets and consist mostly of familiar subjects to the students of the past few years; such as Esmarch's bandages, Sayre's plaster of Paris jacket, Buck's apparatus for fracture of the thigh, Sayre's dressing for fractured clavicle, Lister's antiseptic method; Bigelow's litholapaxy, closing with a whole added chapter on transfusion.

This closes the series of works comprised in Wood's Medical Library for 1879.

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The whole set fulfill the promises which heralded them and are really marvels of cheapness and excellence. The binding is of uniform taste and strength and looks well on the shelves. Several of the numbers are classical in excellence, and have passed through several French and German editions. They have been received by the profession, and reflect great credit upon the judgment and enterprise of the publishers. W. L. D.

ARTICLE IX.—OFFICIAL REGISTER OF PHYSICIANS AND MIDWIVES TO WHOM CERTIFICATES HAVE BEEN ISSUED BY THE ILLINOIS STATE BOARD OF HEALTH—12 mo. Weber & Co,, Springfield, State Printers, 1880.

The Register reflects great credit on the efficient Secretary (Dr. J. H. Rauch) of the State Board of Health. It contains a copy of the Act to Regulate the Practice of Medicine in the State of Illinois, and a copy of the Act to Create and Establish a Board of Health in this Commonwealth, and a Register of Physicians, Regular, Homœopathic, Eclectic, Botanic, Physico-Medical, Thompsonian, and Midwives, arranged by counties, giving the date of registration, school, residence, age, nativity, total years of practice, etc., of each physician arranged by counties and alphabetically. We have examined the Register carefully so far as the regulars are concerned, and find it a marvel of accuracy.

The State Board of Health certainly deserve credit for the thoroughness with which they do their work, and we hope the State legislature will see proper to enlarge their powers so that they may succeed in the laudable undertaking of elevating and purifying the medical profession. D. R. B.

ARTICLE X.—A TREATISE ON FOREIGN BODIES IN SURGICAL PRACTICE. By Alfred Poulett, M.D., Inspector of the School for Military Medicine at Val-de-Grace. 2 Vols. Wm. Wood & Co., 1880.

This unique work contains a vast amount of information on a subject hitherto unnoticed in this form. The author has collected from every source, chiefly from the large number of cases reported hitherto in medical journals from all parts of the world, his own ample experience and that of his colleagues, cases of all

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kinds of foreign bodies in every cavity of the body, their diagnosis, prognosis, and treatment. In the description of each body and its location, the character of the secretion is considered, the viscus in which it is lodged, and its influence upon the intruder. Some of the well-authenticated cases he details, especially of foreign bodies, in the urinary and genital tract are almost incredible. The author's dry comments upon them are amusing. A more novel and interesting work seldom appears.

ARTICLE XI.—A CLINICAL TREATISE ON DISEASES OF THE NERVOUS SYSTEM. By M. ROSENTHAL, Professor of Diseases of the Nervous System at Vienna. With a preface by PROFESSOR CHARCOT of Paris. New York: Wm. Wood & Co.; 1879.

This classical work has run through three large German and French editions since 1870, and has met with extremely favorable criticism everywhere. It is exhaustive and thorough, especially in the practical departments of symptomatology and therapeutics. In this respect it is especially adapted to the wants of the general practitioner. The author uses hydropathic treatment in many chronic nervous diseases in simple and moderate methods, and pays much attention to medical electricity both for diagnosis and treatment. The work is translated by Dr. M. Putzel of New York, who has introduced a number of very serviceable wood-cuts at appropriate places. The two volumes are included in Wm. Wood & Co 's Cheap Series for 1879.

ARTICLE XII.—MATERIA MEDICA AND THERAPEUTICS—VEGETABLE KINGDOM. By CHARLES D. F. PHILLIPS, M.D., F.R.C.S.E., Lecturer on Materia Medica, Westminster Hospital. New York: Wm. Wood & Co.; 1879.

Another reprinted English work edited by an American author, the well known Henry G. Pifford of New York City, who has adapted it to the American pharmacopœa and sufficiently condensed it to bring it within the limits of the series in which it appears. A few unimportant articles are omitted to make room for newer and more useful drugs, as jaborandi, gelseminum, iris versicolor, etc. Both apothecaries' and metric weights are given,

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the latter in brackets. The work is indexed, both as to remedies and diseases. The second portion, devoted to drugs of inorganic action, is nearly ready for the press. W. L. D.

ARTICLE XIII.—THE SURGERY, SURGICAL PATHOLOGY AND SURGICAL ANATOMY OF THE PELVIC ORGANS. With commentaries, notes, and cases. By Henry Savage, M.D., London, etc. Wm. Wood & Co., Standard Medical Library, 1880.

This work of only 129 pages, is profusely illustrated by thirty-two excellent plates, each containing from four to eight different illustrations, supplemented by thirty-two wood cuts giving diagrams of the pelvis and its contents in every possible section, with minute dissections of each tissue in its anatomical and surgical relations. The operations for ruptured perineum and ovariotomy are graphically illustrated in each stage. In the latter the author has frequently assisted Mr. Wells, the celebrated ovariotomist, and is a colleague of that gentleman. While some of the author's theories, in the glimpses he gives us of them, may be peculiar, still the book is admirable in just what the title announces, the Surgical and Pathological Anatomy of the Pelvis.

ARTICLE XIV.—INFANT FEEDING AND ITS INFLUENCE ON LIFE; OR, THE CAUSES AND PREVENTIONS OF INFANT MORTALITY. By C. H. F. ROUTH, M.D., M.R.C., P.L.

The author gives the result of many years of painstaking observation. He is evidently in love with his work; and there is not a neglected detail or a question one might ask but is answered. The book reads easily, is well indexed, and provided with an appendix full of English and French statistics of infantile mortality.

ARTICLE XV.—DISEASES OF THE INTESTINES AND PERITONEUM, comprises a collection of monographs on enteralgia, enteritis, obstruction of the bowels, ulceration of the bowels, cancerous and other growths of the intestines, diseases of the cæcum and appendix vermiformis, colic, colitis and dysentery, diseases of the rectum and anus, intestinal worms, peritonitis, tubercle of the peritoneum, carcinoma of the peritoneum, affections of the abdominal lymphatic glands, and ascites, by a number of noted

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English writers, form also a volume of 247 pages in Wood's Medical Library. The articles, for the most part, are terse and interesting, though one or two are in rather old style. No practitioner will be disappointed with the time spent over the book.

BOOKS AND PAMPHLETS RECEIVED.

BOOKS.

Index Catalogue of Library of Surgeon General's Office, U. S. Army; Vol I. Washington; 1880.

Organic Materia Medica. By L. E. Sayre, PH.G. Detroit; 1880.

Treatise on Therapeutics; Vol. II. By A. Trosseau and H. Pidoux. Translated by B. F. Lineslee, M.D. Wood's Library; 1880.

The Skin—in Health and Disease. By L. D. Bulkley, M.D.

The Brain as an Organ of the Mind. By H. C. Bastian, M.D., F.R.S.

Functional Nervous Diseases. By L. Putzel, M.D. 1880.

Dose Book and Anatomist. By C. H. Leonard, M.D. 1880.

Geo. P. Rowell & Co.'s American Newspaper Directory. 1880.

Practitioner's Hand Book of Treatment. By J. Milner Fothergill, M.D. 1880

Contributions to Orthopœdic Surgery. By J. C. Hutchison, M.D. New York; 1880.

Tumors of the Mammary Gland. By S. W. Gross, M.D. Philadelphia; 1880.

The Microscopist. By J. H. Wythe. Philadelphia; 1880.

Diseases of Women. By Graily Hewitt, M.D. Philadelphia; 1880.

PAMPHLETS.

Seventeenth Annual Report of New York Society for Relief of Ruptured and Crippled. May, 1880.

Case of Probable Abscess of Brain. By Frank Allport, M.D.

Iritis and Some of its Dangers. By S. J. Jones, M.D. (Reprint.)

Fifteenth Annual Report of Chicago Hospital for Women and Children. March 1, 1880.

Transactions State Medical Society of Arkansas, fifth annual session. 1880

Pregnancy Vomiting. By J. Marion Sims, M.D.

Report of Indiana State Health Commission. 1880.

Anæsthesia by Ethyl Bromide. By H. Augustus Wilson, M.D.

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Lunacy Reform. By E. C. Seguin, M.D.

Peptonized Milk as Food for Infants and Invalids. By R. J. Nunn, M.D.

Practical Hints Relating to Yellow Fever Prevention. By R. B. S. Hargis, M.D.

Minutes of Twenty-fourth and Twenty-fifth Annual Meetings of Kentucky State Medical Society. 1879 and 1880.

Reports and Resolutions Relating to Sanitary Legislation.

Lacerations of the Neck of the Uterus. By A. R. Jackson, M.D.

Eleventh Report of State Board of Health of Massachusetts. 1879.

Transactions Medical and Chirurgical Society of Maryland. 1880.

Proceedings of Connecticut Medical Society. 1880.

IN the *British Medical Journal* for Dec. 25, 1875, is recorded a case of diabetes insipidus successfully treated with ergot, after the failure of jaborandi and other remedies. Half a drachm of the fluid extract of ergot every three hours reduced the urine in twenty-four days from twenty pints to a pint and a half; increased its specific gravity from 1.002 to 1.017; and removed the excessive thirst and other distressing symptoms of over two years' standing.

A few days ago the reporter of the case accidentally met the patient, who told him he had never had a day's illness since he left the hospital four and a half years ago; his urine was normal in quantity, and he did not suffer from thirst. He was strong and well in every way, and able to do a good day's work.

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Editorial.

THE AMERICAN MEDICAL COLLEGE ASSOCIATION.

Since the last annual meeting of the above named association, which was held in New York about the first of June, 1880, its position in relation to the progress of medical education and its prospects for the future, have been commented on by many of the medical journals in different parts of the country. These comments related chiefly to the action of the association in relation to the colleges requiring attendance on three regular annual courses of instruction before graduation, and to the withdrawal of certain Eastern schools from membership. The adoption of the amendment to the articles of confederation by which all the college members become pledged, not only to exact three years of professional study, but also attendance on three regular annual courses of college instruction before graduation, to become operative in 1882, was a very important step; and appears to have elicited only commendatory notices from the medical press.

It is true that the *St. Louis Clinical Record* offered some criticisms. They were not against the movement itself, however, but simply against the postponement of its practical operation for *two years*. The voluntary withdrawal from membership in the association, of the two most influential medical colleges in New York, and the intimated withdrawal of the Jefferson School in Philadelphia by its representative in the last meeting, thereby leaving the membership of the association almost wholly west of the Alleghanies and within the great interior valley of the continent, has evidently taken many of those connected with the medical press by surprise, and has led to much inquiry for the reasons actuating the withdrawing colleges. When it is remembered that

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the representatives from the College of Physicians and Surgeons, and the Bellevue Hospital Medical College (the two New York schools recently withdrawn), were among the most active in originating the association and in framing its constitution and articles of confederation, it is not surprising that their withdrawal before the completion of the fourth year of its progress, should create not only surprise in the minds of others, but much curiosity to know the reasons for such capricious action. Indeed, it is difficult to see how the colleges concerned could consistently or honorably withdraw without assigning true and adequate reasons for such a step. Yet we do not learn that any reasons whatever have been given by either of the colleges alluded to. But while the withdrawing colleges are themselves silent in regard to reasons for their action, *The Medical Record of New York* for August 14th, attempts to give some very singular reasons for them. After admitting that the association had "certainly done some good work;" that its claims to having secured progress as regards medical education in several important directions, "are to some extent just;" and finally, that it "has had the courage to take the step of insisting upon *three* full courses of lectures as a requisite for graduation;" the editor with apparent reluctance adds:

"But in spite of all this evidence of earnest endeavor after reform, we find that none of the *largest* medical colleges are working with the association. Not one of the colleges of Philadelphia, New York, or Boston, were represented at the meeting, [in New York] except the Jefferson Medical College, and its delegate *failed to vote* for the resolution requiring a three-term course. The College of Physicians and Surgeons of this city, [New York] and the Bellevue Hospital Medical College, withdrew from the association altogether. It is composed, therefore, now, for the most part, of the smaller medical colleges *scattered* throughout the West and South. This disaffection of the Eastern colleges, has, we fear, an unfortunate significance. If we interpret it rightly, it means that the association can do them no good, and that they do not have faith in the possibility of securing any great reforms in medical education through its influence. There certainly is some reason for looking at the matter in this

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light. The association is composed largely of colleges which really cannot subscribe to certain most desirable measures without ceasing to exist. One of these reforms—one perhaps of least importance—is that of raising the lecture fees. An attempt to make a rule on this point at the last meeting failed utterly. There is very sharp competition among some colleges, and one form which this takes, is the practice of underbidding each other in the matter of fees. This practice which is very demoralizing, the association cannot stop. Another reform which is greatly needed is the insisting that a medical college should furnish a certain amount of clinical instruction. But there are a good many country colleges, where a rule enforcing even a small minimum could not be carried out. The fact is, therefore, that a high minimum of requirements for graduation—a minimum embracing all points desirable to secure a thorough medical training—can never be applied to all American colleges, and can never be adopted by the college association without a fatal loss of membership. A minimum that would perhaps elevate and benefit small colleges would be inadequate for the institutions of the great cities."

There are several points in the foregoing quotation, from one of the most candid and enlightened of our contemporaries on the Atlantic border of our country, worthy of notice. The first is the very complaisant manner of assuming that all the largest medical schools in the country are centered in Philadelphia, New York and Boston; and as these have ceased to act with the American Medical College Association, the latter is now composed for the most part of "the smaller medical colleges scattered throughout the West and South." This kind of assumption of superior importance—greater size—and more perfect development of everything on our Atlantic borders, is characteristic of Eastern writers and talkers. They so habitually speak and write of the schools, colleges and cities of the West and South as "provincial," "small," "scattered," etc., as compared with the metropolitan character of those in the East, that we have often wondered whether they have ever studied the geography of their country, or cast a glance over the census statistics of the last two decades. Is it possible that the editor of the *Medical*

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Record has not yet learned that a large majority of the people of the United States live west and south of the Alleghany mountains—that within the Mississippi valley alone, there are four or five cities each containing from a quarter to over half a million of inhabitants, with schools, medical colleges and hospitals, that will not suffer by the most rigid comparison with those in the largest cities in the East, and, moreover, that all these medical colleges are still members of the American Medical College Association? The truth is that the oldest medical college in Chicago, which was founded less than forty years since, has a class of students much larger than that of either the Pennsylvania University or the Harvard College at Boston, and only a little less than that of either the College of Physicians and Surgeons or the Bellevue College in New York, or of the Jefferson College in Philadelphia; and the aggregate number of medical students annually attending the medical colleges in Chicago, Cincinnati, St. Louis, Louisville and New Orleans, is very nearly equal to the aggregate of those attending the medical colleges of Philadelphia, New York, Brooklyn and Boston. And even if our Eastern confréré should turn his attention to the medical colleges in the smaller towns and cities "scattered throughout the West and South," could he find *one*, even in the most remote frontier settlement, with a smaller class in attendance than that which annually assembles in the medical department of old Yale, or with an annual college term of less than sixteen weeks, like that of Dartmouth and others in New England?

The next point worthy of notice in the foregoing extract from the *Medical Record* relates directly to the reason assigned for the withdrawal of the Eastern colleges, namely: "that the association can do them no good and that they do not have faith in the possibility of securing any great reforms in medical education through its influence." Without stopping to comment on the purely selfish motive implied in the first line of this quotation, let us try to find out what "great reforms in medical education" the writer and the colleges for which he speaks have in mind, and then we can more readily see whether the lack of "faith" spoken of is justified by anything in the past history of the association or not. The reader will see that the only measures of "great

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reform" actually mentioned in the *Record* are: first, "that of raising the lecture fees," and second, "the insisting that a medical college should furnish a certain amount of clinical instruction." In regard to the first, he says an attempt to make a rule on the subject of fees at the last meeting of the association "failed utterly." In looking over the records of the last meeting as published by the secretary, the only allusion we find to any attempted action on this subject is in these words: "On motion, it was resolved that, in the judgment of this association, the minimum lecture fees should be seventy-five dollars." How the adoption of such a resolution, expressly stating what ought to be the *minimum* for lecture fees, constituted an utter failure we leave for the *Record* to explain. But what has been the influence of the association over this subject of fees?

At the time of completing the organization of the association in 1877, with the exception of two colleges in St. Louis and one in New Orleans there were no medical colleges in the interior valley from the Great Lakes to the Gulf of Mexico whose lecture fees did not range between twenty and sixty dollars; several gave two graduating courses each year, and at Louisville there was a college faculty running a medical college under two names, the term of one following the other so as to enable any student to attend his *two* college courses and graduate in *nine months*, and at the same time inviting students by circulars sent into every Congressional district in the country to come on pretended free scholarships, paying only some nominal incidental fee instead of regular lecture fees. Starting with this state of things, the organization of these colleges into the American Medical College Association, with the resulting personal contact of their several representatives, their better acquaintance, clearer perception of mutual interests and greater confidence in each other, in the three short years that have elapsed, the double headed nuisance at Louisville has been completely broken up; not a single college continues to give two courses counting for graduation in one year, and every college of note or material influence, except the Medical Departments of the State Universities of Michigan and Iowa, from Detroit to New Orleans, has increased its lecture fees to seventy-five dollars. Could the editor of the *Record* or any other

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party reasonably ask for better progress in the same time, so far at least as concerns the colleges of the West and South? And yet not a college in either of these sections has withdrawn from the association on account of this advance on the subject of lecture fees. Is it not possible, however, that if the editor of the *Record* would make thorough search into the relations of things nearer home, he could find something relating to *fees* that might have had an influence on the action of the New York colleges? The double headed Kentucky-Louisville college "out West," was not the only college in the United States that sought to gather in large classes by issuing an undefined number of scholarships and liberal provisions for beneficiaries, if the signs of the times and the annual announcements do not lie, one of the *largest* colleges in the *largest* city in the East, called the Medical Department of the New York University, is in the habit of making both these methods available to a very liberal extent. The character of the very first *topic* taken up for consideration in the convention of college delegates held in Philadelphia in 1876, as well as the stringent nature of some of the articles of confederation relating to the same topic, adopted at the meeting in 1877, taken in connection with the active part performed in framing those articles by the representatives of the College of Physicians and Surgeons of New York, and of the Bellevue College, justifies, at least, the suspicion that a strong, underlying motive for the movement was a hope or expectation that the New York University would be drawn into the membership of the Association and thereby forced to abandon its plausable, indirect underbidding processes or suffer open disgrace. And is it not just possible that the failure of the last named institution to come into the organization, by which it maintained its own freedom while its immediate neighbors had placed themselves under additional restrictions, was really the efficient cause of their speedy loss of *faith* and their hasty retreat from an organization they had been so active in forming? We wish to call the attention of our brother of the *Medical Record* to another item closely related to the foregoing. All of the *smaller* medical colleges of the country are not "scattered throughout the West and South;" but there are still q iite a number in the old States of Vermont, New Hampshire, Maine and

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Connecticut, and there has long existed a relation between some of these schools and those of the great cities of the East by which facilities for the graduation of students were afforded almost equal to that of the former Kentucky-Louisville institution.

For instance, the medical department of Dartmouth, New Hampshire, has a short annual term of from fourteen to sixteen weeks, commencing early enough in the season to end about the time that the schools in Boston and New York commence, so that the student can take his first course there and his second course and graduate in one of the great cities, by an almost continuous college attendance of about *nine* months. Or he can go to the Long Island Hospital Medical College in the *great* city of Brooklyn, and attend its course commencing in the spring, and to one of the great schools in New York or Philadelphia the following autumn and graduate, having completed his *two courses* of college attendance all in twelve months. This nice arrangement for facilitating the making of doctors was blocked so far as the members of the American Medical College Association is concerned by the article of confederation requiring the lapse of, at least, fifteen months between the beginning of the first and the end of the second course of lectures the student is required to attend. Another of the articles of confederation bound the members of the association to require of each candidate for graduation evidence of having studied medicine *three full* years, which was designed to stop the common practice long followed in the larger colleges in the great Eastern cities, of graduating students who had attended two courses of lectures, but who had not studied medicine a day over eighteen months. We ask again, if it is not possible that finding themselves likely to be restricted by these wholesome regulations while their immediate neighbors, the New York University, the Harvard College, etc., remained free, had much to do in helping to dissipate their *faith* in the benefits to be derived from the association?

If, after due investigation, our New York confrère should find these suspicions to which we have given utterance, well founded, we hope he and others will hereafter cease to make the smaller medical schools "scattered throughout the West and South" the scape-goats for all the sins committed under the head of medical

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education. The second reform mentioned by the *Record* as desirable, but which it is alleged the members of the college association could not carry out, on account of the numerous smaller medical colleges scattered throughout the country, was that of providing adequate *clinical* instruction as a part of their regular system of teaching. We admit that there are a considerable number of small medical colleges both in the East and West (quite as many in proportion to the population in the former as in the latter), that have no adequate means for clinical instruction. But this, instead of furnishing an excuse for withdrawing, or standing aloof from membership in the college association, is one of the strongest reasons why such an association should be sustained. And if the old and well established medical colleges in the great Eastern cities, Baltimore, Philadelphia, New York, Brooklyn, and Boston, would at once enter the college association and unite with the colleges that are already members, in Detroit, Chicago, Cincinnati, Louisville, St. Louis, and New Orleans, not only in honestly maintaining the steps in advance already taken by the association, but in adding two others, namely, a just and proper standard of preliminary education on the part of students, and the furnishing of adequate *clinical instruction* in hospitals sufficient for the purpose, they would not only give it efficiency and permanence, but they would also cause it to be sustained by the whole body of the profession, including the county, State, and national medical societies, together with the State and national boards of health and boards of examiners. The only members that would be lost to the association by such a step, would be such as ought to be lost to the world by ceasing to exist, and whose loss would be "*fatal*" to no one but themselves. This part of the subject, however, is of such paramount importance as to require thorough discussion; but we have already occupied so much space that we must defer further comments until the November number.

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Original Translations.

ON THE NATURE AND PATHOGENY OF MALIGNANT JAUNDICE, ACCORDING TO RECENT WORKS. By ALBERT MATHIEU, interne des hôpitaux (Paris).

(Translated for the CHICAGO MEDICAL JOURNAL AND EXAMINER by H. D. VALIN, M. D., Chicago.

Dr. Rendu, in an excellent article in the *Dictionnaire de Dechambre*, appropriately gave the study of malignant jaundice the first place in the pathology of the liver. In fact, malignant jaundice is no longer considered a well-defined disease, existing *per se*, but as a set of symptoms met in several affections.

"We do not look upon malignant jaundice as a special disease, but simply as a complication which may take place during the course of any disease of the liver, a common ultimate phase of any degeneration of that gland, which may yet result in a cure." (Rendu.)

This is very different from the signification formerly given to the term malignant jaundice, or to its synonyms, hæmorrhagic, typhoid, fatal icterus, acute yellow atrophy of the liver.

The essential disease formerly described under that name does exist, but its only characteristics are a rapid course, a toxic cause, probably, and anatomically a quick destruction of the active elements of the liver. These symptoms and pathological lesions can all be found in a variety of pathological conditions, with a more or less chronic course. The nervous phenomena, hæmorrhages and prostration, are symptoms common to many affections. Shall we say, however, that the complexus of symptoms are indifferently produced in all general and local diseases affecting the liver, without a corresponding and pathogenic cause being found in that viscus? On the contrary, works lately pub-

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lished aim at demonstrating that the sum of the phenomena referred to have always their origin in the same lesion—the destruction of the liver cells, whatever the cause of such a destruction may be. In the same manner that a relaxation of the vascular system results from various affections of the heart, malignant jaundice is the last result of destructive diseases of the liver. Let us now add another important character. It seems that the suppression of liver cells is not the first step, although that was the opinion held at first, as it is even yet by a few. It is more likely the result either of a deep change in the organism, manifested by a pathological change in the blood, or a formative process ending as it were in the mechanical suppression of the active elements of the liver.

This view concerning malignant icterus clearly results from a perusal of late works on the subject. The article of Dr. Rendu in the Cyclopedic Dictionary, the chapter on acute yellow atrophy of Thierfelder in Ziemssen's Handbook, and the inaugural thesis of Dr. Mossé, have been our chief guide. Their interesting perusal incites one to think that science actually tends to strengthen that pathological point, and although some obscure corners remain, one can form a satisfactory general idea of the phenomena designed by the terms malignant jaundice or yellow atrophy.

We must presently explain these improper terms. Jaundice is not a necessary concomitant of the suppression of liver cells, and the chief features of the complexus of symptoms, hæmorrhages and cerebral manifestations, have nothing to do directly with the absorption of bile in the blood. The importance of the morbid phenomena is not at all in ratio to the intensity of the jaundice. Some medical writers, struck by the marked diminution in the size of the liver, and taking such a degeneration as pathognomonic, called acute yellow atrophy, this affection named by others malignant, fatal, essentially hæmorrhagic icterus, etc. But malignant jaundice may be present without any atrophy of the liver, or when the latter is atrophied, if the diminution in size is produced very slowly. It is necessary, however, being agreed on that point, to continue to give to that sum of symptoms now the name of malignant jaundice, and now that of

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yellow atrophy. We prefer the former term, although the icterus may be absent sometimes, rather than to conjecture as to the true nature of things.

It may be proper, to facilitate the understanding of this review, to give here the plan which we propose to follow, or, rather, the consecutive propositions which might form a conclusion to this article.

1. The absorption of the constituents of bile in the blood is not apt to give rise to malignant jaundice, and, accordingly, theories based on cholemia, acholia, etc., are groundless.

2. Neither is malignant jaundice due to uræmia, and, should the kidney have something to do with the pathology of that complexus of symptoms, it is not of a primary importance.

3. The destruction of liver cells is the only anatomical characteristic. This destruction may be produced under the influence of widely different causes, which may be divided in two chief classes—mechanical and toxic. The former produce a slow destruction of the active elements of the liver, the latter a quick destruction.

4. There exist, however, as demonstrated by phosphorus poisoning, transitory forms between slow and mechanical destruction, and the rapid destruction depending on a toxic cause.

5. The peculiar state of the blood and the existence of epidemics show that a general poisoning precedes the hepatic atrophy, in genuine cases, in the same manner that the absorption of phosphorus precedes the signs of poisoning by that substance.

6. Malignant jaundice, contrarily to what has long been the common belief, may terminate in a cure.

The physicians who first described malignant jaundice have been impressed by two phenomena chiefly—the presence of jaundice and the constant occurrence of lesions in the liver. Very naturally, they gave the jaundice the greatest importance. Its appearance, indeed, most frequently precedes the occurrence of nervous manifestations and hæmorrhages. Hence, the hepatic lesions must have been influenced by the jaundice, the bile retained in the secreting canals, or, secreted in excess, dissolving the liver cells. (Henoch, von Dusch, Rokitansky.) This, how-

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ever, was proven to be false. (Robin, Kühne, Wickham Legg.) The bile, no more than the biliary acids, has not the natural property to destroy the liver cells.

It was supposed that the constituents of bile introduced or retained in the circulation would produce on the blood a particularly poisonous effect. Hence, the symptoms were attributed to cholemia (Piorry), choletoxemia (Lebert), acholia (Frerichs). It has been demonstrated that, although the presence of bile in the blood is not harmless, it is not capable of producing malignant jaundice.

Researches in experimental pathology demonstrate that it is impossible to give rise to malignant jaundice by artificially introducing bile into the blood, even in a large quantity, provided, however, that the bile be well filtered. Finally, very significant pathological facts prove that there is no necessary connection between the jaundice and the nervous accidents.

Malignant jaundice may supervene towards the end of common cirrhosis, even if the latter has progressed unaccompanied with jaundice (Thierfelder). It is a question, however, why these nervous phenomena are not developed more frequently in cases of intense and prolonged icterus, why, in a word, all cases of jaundice do not have to a certain extent the typhoidal aspect, if cholemia sufficed to explain cerebral disorders.

The theory of acholia cannot be sustained, because the biliary acids do not pre-exist in the blood. Not only are they excreted, but they are also secreted by the liver.

Moleschott, Lehman and Kunde, after removing the liver in frogs, and keeping the animals alive during several weeks, have not found biliary salts in their blood.

Is there a resorption of bile after secretion and bile-poisoning? Such a poisoning might be dependent on the coloring matter, the biliary acids, or cholesterine.

For what relates to the coloring matter, it is more and more generally admitted that bilirubine, the prototype of the various coloring matters of bile, is derived from hæmoglobine, that beside a little modification the blood and the bile, pigments are the same. The chemical demonstration of that point is imperfect as yet, although very clear in a clinical point of view, and it is from

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that circumstance and from that identity in nature that the theory that icterus arises from hæmaphæin (the brown coloring matter of the blood) was founded, and it has been sustained in France by Gubler, and ably exposed by Dreyfus Brisach in his inaugural thesis. *Hæmaphæic* icterus may often accompany grave affections as a result but not as a cause.

Are the symptoms of malignant jaundice depending on biliary salts as some pretend? They have been injected in a large quantity into the blood without giving rise to characteristic nervous phenomena. This was the result of the experiments of Traube, Müller, Felz and Ritter, Vulpian, etc. Whenever the injection is considerable, the results hardly differ from those obtained by injecting water; or at times symptoms pertaining more to simple jaundice are produced: slowness of the pulse, lowering of the temperature, emesis, diarrhœa. At times hæmaturia appeared, and sometimes ptyalism.

In any case, biliary salts must be reckoned harmless. Their presence in the blood cannot determine the occurrence of malignant jaundice.

Icterus may long exist without maglignant jaundice, as extensively proven by Dr. Strauss in his admission thesis. Whenever malignant jaundice supervenes in the course of chronic jaundice, it is indirectly, and through the inflammation of the biliary canaliculi, and through the interstitial hepatitis resulting therefrom, as is the case in hypertrophic cirrhosis. These accidents must again be referred to the inflammatory and destructive process rather than to a simple resorption of bile.

It remains to examine the hypothesis of cholesteræmia proposed by Dr. Austin Flint.

According to that author, the symptoms of malignant jaundice would be owing to the retention and the accumulation of cholesterine in the blood. In a normal state, in an adult, the blood contains 0.445 gr. to 0.750 gr. of cholesterine. In a case of cirrhosis of the liver, with nervous manifestations, he found 0.922 gr., in another case 1.850 gr. Pagés also found 1.85 gr., and Picot 1.864 gr.

Cholesterine has been injected into the blood and has never reproduced the grave manifestations of malignant jaundice.

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Pagés and Felz obtained only negative results. R. Müller has determined a weakening of the pulse and even coma: the cholesterine which he used being porphyrised and undissolved so that cerebral emboli were probably produced.

It seems now well demonstrated that malignant jaundice is not caused by the absorption of the biliary constituents in the blood. This is obvious from physiological experiments and still more from the true existence of the symptoms of malignant jaundice without icterus. Not only is its absence met in chronic cirrhosis, and slowly destructive affections; but Bamberger has recorded a case of acute yellow atrophy without jaundice (Krankh. des Chylopoë. Syst. 2 Aufl. p. 532). It referred to the case of a woman thirty years old who was seized with delirium and mania on the day following her confinement. The autopsy revealed an acute yellow atrophy of the liver far advanced; hardly a few cells had remained intact. Similar facts have been recorded by Eppinger and Liebermeister.

What neither bile nor its constituents can do may be produced by urea, according to others. We thus approach the renal theory of malignant jaundice lately sustained by Dr. Decandin.

Because renal lesions are frequent, even in simple jaundice, it does not follow that the nervous manifestations should be attributed to uræmia. It is doubtless very important to have healthy kidneys, capable of eliminating the bile absorbed in the blood; it is doubtless very useful to have a sieve to filter the leucine, the tyrosine and the other noxious substances apt to occasion poisoning, but it is going too far to consider the kidney as the starting point of the symptoms of poisoning, and above all to identify malignant icterus with uræmia.

Dr. Decandin resumed towards the last of his thesis, the objections to the uræmic theory; it was helping the critic, still he does not seem to have answered these objections.

Albuminuria does not accompany malignant jaundice; nor is the temperature lowered. There is no œdema nor puffiness of the face, no albuminuric retinitis, nor hypertrophy of the heart.

Moreover, the convulsive fits of uræmia do not resemble the crises of malignant icterus in which hardly any eclampsia is noticed.

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In malignant jaundice, delirium, nervousness, later stupor and coma are prominent. Says Traube: the fits have something "psychiatric."

Two very curious observations might form a basis to the uræmic theory. One is from Dr. Vallin, the other from Dr. Bouchard.

In that recorded by Dr. Vallin, there were all the signs of malignant jaundice though the autopsy revealed no lesion of the liver, while the kidney on the other hand, presented a marked degree of fatty degeneration. This at first sight seems very demonstrative. Nevertheless, hepatic lesions, appreciable to the eye or the microscope, have been wanting in several other observations. It does not prove that the liver cells were intact, for Dr. Quinquand has recently demonstrated in a similar case that the tissue of the liver, healthy in appearance, showed a large quantity of leucine and tyrosine when chemically analyzed. It is very interesting to join the result to what was already known of the appearance of those extractive matters in the liver as well as in the blood and the urine.

It seems in reality, and ulterior experiments are likely to confirm such results, that the chemical lesion is the leading one, and that the hepatic cells have been physiologically suppressed, although their morphological texture did not seem altered in the least.

The observation of Dr. Bouchard is very instructive. It shows the possibility of curing malignant jaundice. In the first stage the elimination of urea was strikingly increased. In a second stage the urine and the urea had been notably diminished and the nervous manifestations of malignant icterus appeared. At last the cure was ushered in by a marked increase in the quantity of urine and urea, a critical phenomenon which has also been observed since by Mossé, Arnould, and Coyne. This fact, however, can hardly be brought to uphold the theory of uræmia. Indeed, cases are not rare which, at first presenting an augmentation of urea, later showed a marked diminution; but there was probably a greater diminution in the production of urea than in its excretion. And this agrees well with what Meissner, Bronardell, and Murchisson have taught concerning the office of the

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liver in the production of urea. During the period of active congestion, there is an excess of urea produced; during that of atrophy, it disappears.

Arnould and Coyne lately analyzed the blood in malignant jaundice and found the quantity of urea diminished. Then it may be admitted that although uræmia may accompany malignant icterus, it is not identical with it, and Rendu and Vulpian rightly claim for the kidney an important, yet accessory and secondary office, in the pathology of malignant jaundice. Dr. Decandin brings to the help of his theory the researches, full of interest, of Julius Möbins. This observer found, chiefly after prolonged jaundice, some biliary coloring matter accumulated in the tubuli, and degenerated epithelium in the convoluted tubes. But nothing indicates that these lesions ever determined nervous phenomena similar to those of malignant icterus, although this would be the important point to be proven.

A very satisfactory observation of Dr. Rendu can be found at the end of Dr. Mossé's thesis, under the head of aggravated jaundice. A man sixty years old was suddenly attacked with prostration, and three days later with jaundice. A comparatively large quantity of albumen was found in the urine. This latter was greenish, leaving a muco-purulent deposit. Patient fell in a low stage, dying with asthenia. Liver was normal; there was a pyelo-nephritis with increase in the size of the kidneys. There is a fine example of the result of icterus in a man whose kidneys were out of order. But as Dr. Rendu remarked, this was not a genuine case of malignant jaundice. The same could be said of other forms of aggravated icterus.

This leads us to place in the first rank the lesions of the liver, whose nature and pathogeny are now to be explained.

We borrow from Dr. Mossé an effort at a classification of the lesions of the liver. Little need be added to it to show that there is an insensible gradation from the lesions of typical, acute yellow atrophy, and those of chronic atrophy, of the cirrhosis of Laennec, passing through acute diffuse interstitial hepatitis.

"*First Period.*—Congestion of liver, increase in size, a lobular aspect appears on cutting. Tumefaction, anomaly. (The lesions

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observed in all malignant fevers). Disease may stop here, or pass unobserved, patient recovering.

"*Second Period.*—The consistency and the size of the liver begins to diminish in a general way, and in equal proportions. The hue, on cutting, is more or less yellowish and marbled. The normal granular aspect is lost.

"Anæmia of the parenchyma, hæmorrhage at times. The microscope reveals tumefaction and anomaly. Appearance of fatty globules and sometimes of biliary pigment in the interior of cells; some begin to take on atrophy, others may even be entirely disintegrated; protein granulations. The interlobular space is increased (albumino-fibrinous exudation, Frerichs), containing at times some fatty globules, some lymph corpuscles (Severi) or embryonal nuclei which form new connective tissue.

"Should the course of the disease be rapid, and death take place before the lesions of the secondary period become very marked, the liver would appear normal or almost so, chiefly when observed with the naked eye. (These are the conditions in which Dr. Quinquand has found an accumulation of extractive matter in the substance of the liver, well calculated to prove the existence of a real lesion.)

"*Third Period.*—Macroscopical and microscopical lesions of acute yellow atrophy at its maximum. During this period, as described in a former quotation, we may find on examining fresh slices with a microscope all the intermediary stages between the normal liver cells and the atrophied cell in process of disappearance, crystals of leucine and tyrosine are also met with. These products of disassimilation may exist during the preceding period. Appearance of new elements in the midst of connective tissue, the nature of which is not yet ascertained, which probably serve for the regeneration of liver cells.

"*Fourth Period.*—A tendency to reparation. Reparation of past disorders. Facts are wanting to answer with precision whether it is complete or limited."

Although this classification be artificial to some extent, although we know nothing of the period of reparation, and we do not know even if the lesions of the third period can be repaired,

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it gives with a good deal of truthfulness the sum of the lesions found and their habitual succession.

But the share referred to interstitial hepatitis is certainly too narrow, not because this increase of cellular tissue between the lobules has been very often observed, but because it shows, when well marked, the passage from acute to chronic atrophy. This leads us to think that if interstitial hepatitis is not more common, it is because it is not allowed the time to develop, the sustenance of life being incompatible with a total, or almost total, destruction of the liver cells; death supervenes before the prolific interstitial inflammations have time to be produced; neither is this a mere hypothesis, as we shall have soon an opportunity to prove that, in various poisonings, according to the dose of poison absorbed, we have acute yellow atrophy without interstitial hepatitis at times, at other times interstitial hepatitis together with atrophy, and finally we may sometimes have a chronic cirrhosis.

Winiwarter has found in a very acute case a considerable augmentation of the interstitial cellular tissue. The lymph corpuscles were exuded in large number into the acini and in their vicinity in the interlobular spaces were found fibrillæ and fusiform bodies. The liver cells were small, atrophied and cylindrical. Fick met a similar case. Lewitski and Brodowski have met with an infiltration of the cellular tissue of the liver with rounded cellular elements.

Finally, in some cases, there may be a proliferation of the smallest elements of the liver and of the intralobular capillaries. The biliary canaliculi are increased in size chiefly in the points of real atrophy. (Thierfelder.)

The inflammation of biliary ducts has been observed by a number of conscientious observers. Some have noticed an inflammation of the mucous membrane lining the ductus choledochus (Paulicki, Reiss), others found in the interior of the canal real plugs of mucus (Bamberger, Mann, Rosenstein, Davidson, etc.). But the biliary ducts sometimes contain no bile and are often filled with mucus, and a deeper cause remained to be found, to explain why the bile does not circulate. Buhl accepts the obliteration of the canaliculi as the cause of the jaundice. Bollinger and Perls agree with him. This obliteration might be

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owing to the compression due to the interstitial exudation when it exists (Frerichs), or to the accumulation of embryonal elements taking place at times in the spaces between the different structures. There is obliteration of the canaliculi from the cellular detritus furnished by the swollen walls, according to Bamberger. Thierfelder thinks that all these causes may act together.

The received notions regarding the etiology of common jaundice lead us to think that it is in the same manner a true resorption which may take place, very deep, as we can see in hypertrophic cirrhosis; the inflammation and the obstacle to excretion being seated near the lobules and the cells. This is important in another consideration still; it is sure that the degeneration of the liver cells, whence malignant jaundice results, has a certain activity which differentiates it from simple fatty infiltration, and this activity of the morbid process agrees well with the inflammation of the canaliculi.

Dr. Lancereaux lately published through his pupil, G. Dupont, an important thesis on acute diffuse interstitial hepatitis. Right or wrong, he attributes a great deal of importance in his work to the action of alcohol. However it may be, the observations recorded are most curious. In a clinical aspect, they recall all the features of malignant jaundice. Anatomically, a marked atrophy of the liver, which preserves its sharp edges, its yellow ochre hue, its elasticity, and a surface almost always glossy. "The microscope reveals in the whole extent of the viscus a diffuse infiltration of the parenchyma, beginning wherever the connective tissue exists in the liver, passing into the interior of the lobules between the liver cells, compressing and destroying the latter." These lesions recall very well those of syphilitic interstitial hepatitis, and have been carefully described by Dr. Rémy, who made an histological examination of them. Let us also remember that diffuse syphilitic interstitial hepatitis with an acute course is recognized as a cause of malignant jaundice.

In what does common cirrhosis, Laennec's cirrhosis, differ from hypertrophic cirrhosis? and why does it determine the appearance of the phenomena of malignant jaundice only in an advanced period, acting mechanically, as it were, after it has destroyed the liver cells already atrophied? This is because the

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feeble irritation long renewed has been acting at times on the capillaries of the vena portæ, at other times on the mucous lining of the biliary canaliculi. The liver cells were not affected at first because the irritation was too little, the blood holding the toxic matter in too small a quantity, or the poison being too feeble, could be noxious through repetition only. If on the contrary the dose of poison had been very large, or its irritating properties very active, the liver cells, attacked in all the extent of the liver, and more or less quickly destroyed, would cease their function and the symptoms of acute yellow atrophy would be manifested. This hypothesis can be directly demonstrated.

It is more and more generally admitted that phosphorus poisoning gives rise to malignant icterus. Considering the symptoms, the similarity is absolute, so also their pathological anatomy. Considered clinically, there is nothing in phosphorus poisoning which can distinguish it from malignant jaundice, the yellow tint of the integuments and of the urine, the emeses, often the hæmatemeses, diffuse hæmorrhages, nervous phenomena, are all present. Microscopical examination has not generally revealed atrophy of the liver; but this is not a characteristic, for, on the one hand acute hepatic atrophy is sometimes present in phosphorus poisoning, on the other, Liebermeister and Frerichs have found the liver normal in size in some well marked cases of malignant jaundice.

Those authors who do not admit the identity of malignant jaundice and phosphorus poisoning, rely chiefly on the fact that in malignant jaundice, there is a fatty granular degeneration of the cells, and in phosphorus poisoning a mere infiltration with fat. It seems to us that the existence, duly established, of irritative lesions, such as proliferative interstitial hepatitis, suffices to show in phosphorus poisoning something beside a simple infiltration, a passive deposit of fatty globules. It is very likely also that the jaundice of phosphorus poisoning can be referred to an inflammation of the canaliculi, as hinted by Ebstein and O. Wyss, though this remains yet to be demonstrated.

Some have looked for a chemical difference between fatty infiltration and degeneration. Perls pretends that whenever there is in a tissue a diminution of water with a corresponding increase of non volatile elements loaded with fat, there is infiltration.

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There is degeneration on the other hand when, the quantity of water remaining normal, the fat replaces some other non-volatile elements. According to that, there would be degeneration instead of infiltration in phosphorus poisoning. Bauer and Voit tried to prove in another way that the presence of fat in the liver cells results from a destructive process in these. In order to prove that, they poisoned fasting dogs with phosphorus. The fat found in the liver cells must have proceeded from their own substance.

We acknowledge a preference for clinical demonstration, and we refer to the observation of Fraenkel for a proof that the lesions are a process of degeneration.

The macroscopical atrophy of the liver which evidently pertains to degeneration is clearly met in phosphorus poisoning (Thierfelder), and Fraenkel published in 1878 a case of acute poisoning observed at the clinique in Leyden. There was in the case a remarkable diminution in the size of the liver which had been observed before the occurence of death.

In this manner by modifying the dose of phosphorus, acute atrophy of the liver, and acute diffuse interstitial hepatitis can be produced at will, and if the doses are small and repeated, common cirrhosis will occur. Weil, giving heavy doses of phosphorus to dogs in order to kill them in twenty-four hours, found no lesions of the liver. With smaller doses he obtained a fatty infiltration at the anastomoses of the capillaries; by a slower poisoning a very clear proliferation of the interstitial connective tissue with degeration of the liver cells.

Finally Wagner, who experimented with very small doses to act on the nutrition of the bones, met with common cirrhosis and even proved the secondary effect produced on the spleen and the blood vessels of the intestine, by the obstruction of the portal circulation in cirrhosis.

What results from the absorption of phosphorus through the digestive canal may be produced by a spontaneous poisoning of the blood from various causes.

Says Dr. Vulpian. the changes in the blood are the clearest and most constant signs of malignant jaundice. They consist in a disintegration. This carries us back to the hypothesis formerly

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sustained by Buhl and Trousseau, and we must admit that in the hæmorrhagic icterus of Monneret, and the malignant icterus of Ozanain, there is at first a general poisoning of the organism by an infectious principle of an unknown nature, and later a destruction of the liver with suspension of its activity. The liver cells, and more rarely the parenchyma, are affected by the zymotic poison carried in the blood, malignant jaundice soon develops, more or less rapidly, and more or less intense in its evolution according to the conditions of infection and resistance.

The true nature of that poison is unknown, resembling in this particular the contagium of typhoid fever. Klebs and Eppinger, who met with bacteria in the blood, charge them with causing the disease. This conclusion is premature since the presence of bacteria is not pecular to malignant jaundice. It is remarkable that acute yellow atrophy and the phenomena of malignant jaundice may be produced in the course of typhus fever, of typhoid fever, and other acute affections. In all febrile diseases, the liver may undergo a true, acute fatty degeneration. Between this degeneration, more or less marked, and acute yellow atrophy there is no well-defined line of demarcation. Indeed, we find some cases recorded in which liver lesion, following a pyrexia foreign to essential hæmorrhagic jaundice, did not differ from the lesion of acute yellow atrophy. This hepatic degeneration has chiefly been met with in typhoid fever. (Frerichs, Oppolzer, Hoffmann, Eppinger.) Diett, Chedevergue, Griessinger and Murchison have recorded cases in which the jaundice supervened in the course of typhoid fever or during a grave relapse.

Dr. Mossé quotes an observation of Dr. Sabourin: a typhoid patient dying with a true acute yellow atrophy. In reality we must admit that, despite the exception, acute yellow atrophy may arise in the course of typhoid fever, and according to Dr. Mossé, during pneumonia. This is not to be wondered at if we consider that malignant jaundice is simply the result of a destruction going on in the liver, whatever the original cause may be.

The existence of a poison whose mode of action is reproduced by phosphorus, cannot be denied since malignant jaundice may occur in epidemics.

Such epidemics have occurred in a sufficient number. They

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seem to rage in two circumstances chiefly. Sometimes there is an epidemic of mild jaundice occurring as a mild disease, taking with a few a malignant character. The danger seems to result from a want of resistance in the individuals attacked, rather than from a peculiarly malignant character of the infection.

The epidemic lately recorded by Frohlich seems to belong to that order. At other times, on the other hand, it is malignant in itself. All the individulals attacked are profoundly affected from the start; a cure becomes the exception. In this class belongs the epidemic of Lille, narrated by Coyne and Arnould. Two patients only escaped. All the rest died with the symptoms of malignant jaundice.

The want of resistance is particularly marked in pregnant women. During epidemics, even relatively mild, pregnant women and those lately confined, almost always furnished the disease with an important material, and deaths were common. It has even at times attacked pregnant women exclusively. Should we look to the fatty infiltration of the liver, normal under those circumstances, as a predisposing cause to the development of the lesions of malignant icterus? That is possible, and there is probably no line of demarcation between this physiological fatty infiltration and a morbid atrophy.

Then it is evident that essential malignant jaundice is owing to a general poisoning of the organism. The blood in this affection is in a disintegrated state as in all infectious diseases. It is black, fluid, dissolved, in a word, and presents very little propensity to coagulate. This peculiar fluid state doubtless facilitates its exudation through the vessels. "The red corpuscles are diminished in the number; part of them have been dissolved, and many of those that remain have lost their shape and become spheroidal; the serum is reddish, and the blood resembles wine dregs in color." Vulpian, Riess, Frerichs, Quinquand, have either found leucine and tyrosine, or extractive matter nearly allied, in the blood. If we remember that leucine and tyrosine have often been found in the liver, or in other organs, the brain for instance, and that they have been found in the urine about as often as they were looked after, we must give them some signifi-

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cance. But it is more probable that they are the result rather than the cause of the disintegration of the liver.

The appearance of malignant icterus as an epidemic in temperate regions, leads us to consider a question long debated, and very differently solved by authors. Are icterus and yellow fever identical? is malignant jaundice, as Monneret said, nothing but the yellow fever of our climates? We dare not discuss the question for want of facts to solve it. Let us remember, however, that Griesinger, after long argument to prove that a wide difference exists in the two diseases, concludes by admitting that malignant icterus occurring in intertropical countries could hardly be differentiated from yellow fever. An important communication was made in 1877 by Dr. Lebredo, of Cuba, to the *Société de Biologie*. This writer having made an histological examination of the liver in two cases of yellow fever, found cirrhosis disseminated in spots, like common cirrhosis of a bilious origin; round particles analogous to yellow embryonal cells in the spaces of Kiernan, and, lastly, a marked atrophy of the liver cells with an extensive fatty degeneration. According to this view, there would be no difference between the lesions in the black vomit and in malignant jaundice.

Should an identity of yellow fever and malignant jaundice be ever demonstrated, it would be satisfactory to see how, by an ascending and continuous progression, the signification of the complex malignant jaundice, in a continuous and progressive ascension, becomes more and more prominent, how it tends to take the first rank from the symptomatic malignant icterus of a chronic and morbid process in the liver to yellow fever; how the same complexus of manifestations, with a variable intensity, is produced now after a poisoning slowly and indirectly destructive, alcoholism for instance, at other times during a rapid poisoning capable of generating epidemics and of transmission by contagion.

However attractive this view may appear, it is not yet demonstrated, at least in what relates to yellow fever.

It remains, before closing this review, to bring forward an interesting point in the history of malignant jaundice, the possibility of its resulting in a cure. Until later times, death was considered a necessary termination, and, some years ago, Grellety-Bos-

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well, who saw many cases terminating in a cure, durst not, for that very reason, admit the existence of malignant jaundice in these cases. He proposed to call it pseudo-malignant icterus.

The case of Dr. Bouchard, above quoted, is one of the clearest that could be met with. Nothing was wanting to the description of malignant jaundice in that case, though the patient recovered. The quantity of urine had been regularly measured, the urea carefully weighed. In a first period there was an augmentation in the quantity of both. In a second period, a marked diminution; and lastly, as a crisis, the flow of urine became profuse. Similar facts were recorded by Mossé, Arnould, and Coyne, and the rise in the quantity of urine and urea has always been the first step to convalescence. This indication, we see, is a precious one to remember.

If, before closing, a definition of malignant jaundice has to be formulated, a short description stating its nature and its character, we may say: Malignant jaundice is a complexus of symptoms consisting essentially of cerebral phenomena, coma, stupor, delirium, convulsions, various hæmorrhages, and generally, though not necessarily, of jaundice. This complexus has its cause in the irritative destruction of the cells of the liver, whatever the origin or the rapidity of that destruction may be, provided it involves the liver to a certain extent. Finally, the presence of malignant jaundice does not necessarily indicate a fatal prognosis.

INHALATION OF OXYGEN IN VOMITING OF PREGNANCY.—M. Pinard publishes in the *Ann. de Gynecologie* an interesting case of obstinate vomiting cured by inhalations of oxygen. It was the case of a young woman who had reached the fourth month of pregnancy and vomited constantly. She had suffered considerable emaciation without having reached the febrile period. Treatment had consisted especially in opium internally, subcutaneous injections of morphia and the ether spray. For three days in succession she was made to inhale oxygen, ten liters the first day, twelve liters the second day, and fifteen liters the third. From this day the vomiting ceased and pregnancy went on to term.—*Journal de Médicine*, p. 372, Aug., 1880.

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Selections.

CREMATION. By DR. WM. PORTER, of St. Louis.

There are few questions, so generally misunderstood, so remunerative to the careful investigator, as is cremation. No custom or rite has a deeper hold upon our civilization than that of burial. The grave has become sacred through the sorrow of millions; religion has hallowed it; sentimental imagination has pictured "its quiet rest," "nor couldst thou wish couch more magnificent" than we are taught that is, around which our poets have twined the ivy and myrtle. Well might we hesitate to strip the "silent hall" of its drapery and reveal the sepulcher "full of dead men's bones." There is a duty, however, beyond the call of custom, sentiment or our preconceived ideas of tender regard for the dead.

The welfare of the living should guide us in disposing of the dead. This thought naturally leads us to contrast the practice of burial with the proposed one of cremation. The struggle between the two methods is mainly from a sanitary standpoint—other considerations are of minor importance.

A body is to be resolved into its original constituents. The water, carbonic acid gas and ammonia are to be separated from the more solid factors. This is the end to which all methods tend, whether the body be buried, burned, or left untouched upon the earth's surface. How can this be done safely, economically, and without violence to our feelings? We can not well be careless about the solution of this problem, for we have to deal not with one body alone, but with many thousands, and they are at our very door.

Take a single instance. The form of a dear one is placed in a

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coffin and buried from sight. From time to time the grave is visited, flowers are planted upon it, and deeply graven upon the marble is the sad story. We think of the silent sleeper, and in fancy gaze upon his upturned features. What is the reality? Down deep in the closely packed earth, so deep that nature's scavenger, the worm, refuses to prey—for worms do not "devour this mortal body" in our modern graves—shut off from the chemical effects of light and heat, a fearful process progresses. It is not enough to say we do not realize this, and think of the dead one as we last saw him. The change goes on whether we are sensible of it or not. The rain slowly percolates through the soil and accumulates, for most graves contain water. The festering ruin is macerated and the horrid infusion of death passes on into a water supply. The cemetery is beautifully situated upon a hillside, perhaps. Many cases of fever, "cause unknown," occur in the village below. The burying goes on, and we are soothed by the confident assertion that the earth is a deodorizer and disinfectant, no proof of harm has ever been given, there is no danger. Yes, but the proof has been given and there is danger.

Earth is a disinfectant only when thoroughly mixed with the decomposing substance. Even then it does not act freely unless the air has ready access to it. These conditions are wanting in our modern graves, and so long as that putrid mass is there, there is danger; do but touch it with your finger and if there be an abrasion you will probably die.

It is from ten to fifteen years ere complete disintegration of a human body, as ordinarily interred, is accomplished. A moderate estimate of the dead of St. Louis is 5,000 each year—50,000 in ten years. Think of 50,000 festering corpses within our city limits! No danger there? You can not trace disease to this source, say you? You can not always directly prove that defective sewage produces disease in a given case, but if common sense doesn't teach it, a sad experience may.

The Paris cemeteries are held responsible, by high scientific authority, for repeated epidemics of malignant sore throat and diarrhœa, if nothing worse, and yet sanitary science is in its infancy.

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The strong arm of law in many of the older countries of Europe forbids human interment within a certain distance of dwellings, and cemeteries are removed by edict as a city grows. Strange is it that a government protects the health of its citizens, while physicians, whose province it is to investigate and guard against sources of disease, ignore the subject.

Happily this apathy is passing away. The merest tyro is not now ignorant of possible danger from inhumation, and as the sanitary physician brings new facts to light, increased opposition to burial as now practiced is developed.

What are some of these facts? Twenty years ago an epidemic of typhoid fever in Washington was traced to decomposing animal matter commingling with the water supply. Physicians began to think and to act. In 1875 the Massachusetts State Board of Health—one of the most reliable in the world—showed that typhoid fever is largely originated and diffused by emanation from bodies dead of that disease. Two years later the same high authority reached similar conclusions regarding diphtheria. Commenting upon this, the late Dr. LeMoyne says: "The inhumation of human bodies, dead from these infectious diseases, results in constantly loading the atmosphere and polluting the waters with not only the germs that arise from simple putrefaction, but also with the specific germs of the disease from which death originated."

Within my own knowledge is a case in point. A young man died suddenly from diphtheria and was buried in the village church-yard. At some little distance was a well from which the good church-goers drank freely each Sunday. Finally the water of the well became fœtid, for the supply was infiltrated by the horrible decomposition from this, the nearest grave. Was it not suggestive that twenty from that little congregation died from diphtheria while this impure well was in use? These people lived in mountain homes, in a pure atmosphere, and though many of these cases were isolated—far removed from others—yet in all the disease was alike virulent and deadly.

Those opposed to cremation tell us that if the laws of hygiene are properly understood and obeyed a graveyard may be so guarded as to be harmless. Possibly, but these laws are not un-

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derstood and will never be fully obeyed; but even were it so what right have we to place a hidden quicksand in our neighbor's path and then wash our hands, because the danger has been fenced in by what we believe to be hygienic conditions? How difficult it is to impose such conditions even were they sufficient, or to legislate in the matter, is shown in Baker's laws relating to burial.

The growth of cities is constantly changing the site of our cemeteries. "Rest in the grave" and "undisturbed sleep" is an hypothesis, not a fact. You have seen it in our own city, the sacred inclosure is needed for city lots, a fashionable street is made to traverse "God's acre." Old coffins are thrust out to make room for a water main and the grave is replaced by a cellar, where the good wife stores her milk and potatoes. Now and then a bone may come to light but it is soon carted off after its fellows. The dead have not become unworthy in the lapse of years that they are thus disturbed; it is but a practical illustration of the principle already noted, that the depositing of the dead should be in the best interest of the living. This principle should apply as readily to the dead of yesterday as to the dead of years ago.

If we admit that inhumation is in any sense dangerous shall we avoid such danger by cremation? In this process the body is placed in a retort, not among the coals and ashes of the furnace as many suppose. In the Siemens' furnace, probably with some modification the best, super-heated air and hydro-carbon from an ordinary gas-retort are used. "The main retort is raised to a strong heat before the body is introduced, and after it is in place and the door closed, the amount of gas used for combustion is gradually diminished, as that coming from the body is sufficient." There is no foul vapor, and any germs of disease are destroyed, for it is a scientific fact that these germs cannot live beyond a certain temperature. During the process the body may be covered with asbestos, or cloth steeped in alum, which preserves the form till the cremation is complete. Think for a moment what a blessing such a practice would be in the plague-stricken cities of the South, or in the over-crowded ones of the old world.

Here, in place of the slow, and, as we believe, dangerous reduction of "earth to earth," we have the shorter and safer one of "ashes to ashes." You accomplish in an hour that which by

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burial requires a score of years. You have solved the problem, driven off the water, ammonia and carbonic-acid gas, destroyed the germs of disease, and have a more definite preservation of the solids of the body than is possible in any grave.

Probably the strongest opposition to cremation results from the horror of "being burned up," and a tender sentimentalism associated with our buried dead. This demands respect. Were the grave what it seems to be, were it within what it is upon the surface, this opposing ground would be well chosen. Remove a few feet of soil from the surface of our Bellefontaine, and note that change in the coffin since you last saw it. I well remember, when a boy, seeing our old sexton exhume a body burried for several years, that of a strong man, called away in the prime of life. The rotting coffin was slowly lifted from its damp bed, and the lid being broken we saw within a horrible mass of putrefaction. Matted hair and decomposing grave clothes but poorly covered the blackened skeleton as it lay in the once handsome casket, now reeking with the emanation of its loathsome contents. Yet this had been a beautiful grave; roses had bloomed upon it and the arbor-vitæ had whispered to it. There would be but little plea for the grave on the ground of sentiment could we see the changes there taking place; there would be few, if any, who would not choose that the body, after faithful service, should be purified by fire, rather than left to rot in such a grave.

Cremation has been advocated upon the score of economy. Our funerals entail great expense, and tombs are costly. I have seen the living pinched for their daily bread to pay the funeral expenses of the dead. In the crowded cities of Europe, where the cemeteries are necessarily at a distance, it is by a great sacrifice that the poor and sometimes the middle classes can provide for even the most unpretentious burial. The body of a London cockney is carried, at comparatively great expense, by his family out of the city which in his lifetime he was too poor to leave for a single day.

Granting, however, the objection, which is not by any means proven, that an equal amount of useless expenditure would be indulged in if cremation were adopted, as attaches to the present method, yet this remains: The vast acreage devoted to ceme-

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teries and grave-yards represent sufficient value to provide crematories in every city and village in the land, and the proceeds of this land would be amply sufficient for the work of cremation wherever adopted. Further than this, the land would be productive—a matter of no little moment in some countries.

An objection to cremation has been raised on the ground that it is a heathen custom, opposed to the practice of the early Christian church. Will not our conscience be void of offense (in this respect, at least) toward the God who is the God of the living and not of the dead, if we dispose of the dead in the interest of the living? The great Founder of the church was not buried as we bury men, but was embalmed as, possibly, his ancestors had learned centuries before in Egypt. Many Christian martyrs have been cremated—not by their friends, it is true, but the process was none the less complete—and their ashes are held sacred. I know not if, in the Bible or among the teachings of holy men, there is one word to indicate one method of disposing of human remains as preferable to another.

It is true that a recent English writer says that the argument from religion is "dead against cremation, the few hints of the inspired writers all pointing to the earth as the final resting-place of the dead." We answer, inspired writers used similes in keeping with the customs of the age in which they lived. As well might we say that certain portions of the Bible taught that we should live in tents or tread out corn with oxen.

A further objection to cremation is that it would destroy all traces of criminal poisoning. True, but if cremation were instituted, there would be more careful scrutiny of dead bodies, and more official examinations. The detection of crime would be rather aided than hindered. Besides, we have no right to advocate a more or less general system of poisoning by inhumation that we may in rare cases discover one who has been the victim of poison. As recently shown by an honored member of this Society, such discoveries do not amount to much at best.

Public sentiment is practically opposed to cremation, and yet among our more thoughtful citizens there is a strong current in its favor. I have been surprised at the expression of this feeling—not alone as evidenced by your Society, gentlemen, but from

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many who are ready with you to practically indorse your action. This much in our own city. Abroad, in London, Vienna, Berlin, Padua, Paris, Leipsic and elsewhere, societies are now well established. The subject is receiving more thought and more favor than at any previous time. We are told that cremation can never be adopted. The London *Spectator*, of recent date, asserts that it has lost its force, never having made much progress. This is at variance with fact. Cremation is now being advocated principally upon sanitary grounds, and sanitary laws are only beginning to be understood. Much is yet to learn, but the little already known favors cremation. However, the *Spectator* sees enough of life in the cremation movement to desire a compromise between it and the usual method of burial. Wisely thought of. The charge of enthusiasm and fanaticism is now being cast upon the advocates of cremation from some who would be content that science should "stand like Joshua's moon at Ajalon." Most of the advance in every department of knowledge has been made by enthusiasts, and the charge of fanaticism is generally the strongest argument of him who brings it, worthy of its source, and worthless in this age. The position assumed by this Society is strong and right. You have placed the living before the dead, and though you may have to deal with many a dead man, so far as reason is concerned, yet the principles involved will live. It is not founded upon fanaticism, but deep-rooted in a strong sense of right and justice.

THE THERMOMETRIC BUREAU.

[We copy the following from the circular of the Horological and Thermometric Bureaus of Yale College, which may interest some of our readers.—ED.]

Statistics show that several thousand thermometers of refined construction, and graduated on the stem to 0°.2 F. or thereabouts, are annually procured by the medical practitioners of our country alone for physiological researches and daily practice. The majority of these thermometers are newly made (within six months), and their verification depends on inferior (from the scientific standpoint) thermometers in the hands of individual

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makers. It is needless to say that the readings of such thermometers have little value in indicating the true temperature of a patient, or affording data in cases which the physician wishes to describe in print.

The makers of thermometers in our country have been, in general, content to use for their standards thermometers which have been compared at some foreign observatory, or with some more easily accessible instrument in which they place confidence, in the hands of a friendly neighbor. Thus it happens that many thousand American clinical thermometers have been sold, which do not depend upon a comparison with a recognized standard for their scale readings. The result has been that the American instruments have suffered in the estimation of scientific practitioners. This is not so much the fault of the American makers as their misfortune in not having the same facilities offered them by the properly equipped observatories this side of the water, which their favored competitors enjoy abroad.

The meteorological observers in this country have now no common standard of easy access; and it seems eminently proper that the observatory should undertake to be useful to the medical profession and the meteorologists in this country, and afford the means of comparison desired. With this end in view, the observatory has accepted the aid of the Board of Directors of the Bache Fund of the National Academy in obtaining the standards of the foreign observatories, and has made provision for the constant determination of the errors of the standards themselves. The following is the official circular of the Thermometric Bureau:

CIRCULAR CONCERNING THE VERIFICATION OF THERMOMETERS.

This Bureau has been established by the Corporation of Yale College, at the recommendation of the Board of Managers of the Winchester Observatory, in order to afford desired facilities for the adequate verification of thermometers.

Thermometers will be received by the observatory for the purpose of comparison with the observatory standards, and certificates of comparison signed by the astronomer in charge will be issued with thermometers so compared. These certificates will

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contain a statement of the corrections to be applied at intervals of five or ten degrees of the thermometer scale to cause it to have the same reading as the observatory standards. In general these corrections will be expressed in tenths of a degree Fahrenheit, or in twentieths of a degree Centigrade.

Thermometers sent for verification must have a name and number engraved upon them; and thermometers which are not graduated on the glass stem must be of sufficiently good workmanship to satisfy the observer in charge that the scale will not suddenly change with reference to the glass stem of the thermometer tube, with ordinarily careful usage.

The Board of Managers have established the following scale of charges for this service, which includes the hall mark and the certificate:

Standard Meteorological Thermometers	$1.00
Ordinary Meteorological Thermometers	.50
Ordinary Maximum Thermometers	.75
Ordinary Minimum Thermometers	.75
Clinical Thermometers	.50

There will be a deduction of one-fifth of the above charges where more than eight thermometers of one kind are received at the same time. In the case of clinical thermometers the charge will be four dollars per dozen when not less than two dozen are sent at the same time.

For other thermometers than the above, the charges for verification will be furnished on application.

The letter of advice accompanying thermometers sent for verification should contain the maker's name, the number of each thermometer, and full directions for reshipment.

All proper precautions are taken by the Board of Managers to guard against loss or injury; but as it is manifestly inexpedient that a University corporation should be responsible for property in its care for such a purpose, it is to be understood that all risks are assumed by the person sending the thermometers.

LEONARD WALDO, *Astronomer in Charge.*

Approved and ordered to be published by the Board of Managers of the Winchester Observatory.

C. S. LYMAN, *President.* H. A. NEWTON, *Secretary.*

NEW HAVEN, CONN., June 1, 1880.

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The observatory desires to encourage the general verification of thermometers on the part of the members of the medical profession, meteorological observers, and all those persons who have occasion to note temperatures to less than one degree Fahrenheit. The inaccuracies of the thermometers in use by the majority of such persons are considerably greater than is commonly supposed.

It will be seen that the observatory places every facility at the disposition of observers and thermometer makers for the ready verification of thermometers; and there is no good reason why a purchaser should not have an accurate knowledge of the errors of his instrument should he so desire.

The observatory will make arrangements with hospitals and other institutions using a number of thermometers, for the systematic examination at stated intervals of all thermometers in their use. Such an arrangement precludes errors arising from the use of newly made instruments which have been verified, but whose scales have not yet attained an approximately permanent position.

For the present the comparisons of clinical and meteorological thermometers will be made with a water bath in which the water is brought to a given temperature and mechanically agitated before the comparison is made. The standard to which the primary and secondary mercurial standards will be referred is the air thermometer.

Ordinary thermometers are returned within three days from the time of their reception, if the observatory charges for verification are remitted with the thermometers.

In case they are not so remitted, they are payable upon notification by the observatory that the thermometers are ready to be returned.

Dealers and manufacturers furnishing satisfactory references to the observatory may open an account, to be settled quarterly, beginning with January 1 of each year.

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OPERATION FOR UNITED FRACTURE OF THE OLECRANON BY OPENING THE JOINT, AND WIRING THE FRAGMENTS TO THE ULNA; BONY UNION. (Under the care of Mr. WILLIAM ROSE.)

For the following notes we are indebted to Mr. John Phillips, house-surgeon:

W. M., aged twenty, was admitted into Fisk ward on March 31. Early in January he fell down on his left elbow. Great swelling followed, and he was treated by his medical attendant for a simple sprain. He noticed, however, that as the pain and swelling subsided he could not extend the forearm. In the beginning of March he attended King's College Hospital as an out-patient under Mr. Rose. A fracture of the left olecranon was detected with about half an inch separation between the broken surfaces. The forearm was extended and bandaged upon a splint in order to relax the triceps, so as to bring the olecranon down to position. As this was followed by no marked improvement, Mr. Rose operated on April 1.

A longitudinal incision three inches in length was made over the seat of fracture, and the joint opened. The olecranon was freed with a few touches of the knife from its lateral attachments, and drawn down to the ulna without difficulty. The fibrous tissue which had formed between the broken surfaces was carefully dissected away, and the opposing surfaces of bone were scraped with a chisel until they were quite bare. A hole was then drilled obliquely in the ulna, and another exactly corresponding to it was made in the olecranon, care being taken to bring out the point of the awl, on the rough surfaces just outside of the articular cartilage. A strong silver wire loop was then passed through the holes thus made, and drawn tight. The broken fragments were thereby brought closely and firmly together and the wire was entirely outside the joint. Horsehair drainage was used, and the wound was closed with carbolized silk sutures. Gauze dressings were applied, and the limb was put on

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a splint with the forearm extended. Strict antiseptic precautions were observed throughout.

The after-progress of the case was highly satisfactory. The joint remained perfectly quiet, the patient complained of no pain, and the temperature never rose above 99.4°, nor his pulse above 84.

The antiseptic dressings were changed only seven times in the five weeks which elapsed before the silver wire was removed. The joint was moved the tenth day, and on the seventeenth day from the operation the patient was able to extend the forearm. After this the action of the triceps steadily improved, and the patient left the hospital on May 13 with evidently firm bony union.

Mr. Rose remarked that he was led to undertake this operation of opening the joint and wiring the fragment, not because the fracture was ununited, but because the arm had lost all power of extension in consequence of the complete laceration and displacements of the lower attachments of the triceps muscle. He would not recommend the operation in every case of fracture of the olecranon. It was not an uncommon occurrence to find a considerable amount of extension in such cases. This was to be explained by assuming that, though the olecranon had been detached, the fibrous insertion of the triceps had not been entirely severed.

LITERATURE AND MEDICINE is the title of an article in the July *Eclectic*. It treats of the various points at which the two professions touch. Among others is the kind tendance given to men of genius by those whose care and duty it is "to stand between man and his doom. "Who can forget Dryden's grateful acknowledgement of the services of Hobbes and Guibbons? or Cheselden's goodness to Pope? or Meade's to Gay? or Arbuthnot's to every literary man with whom he came in contact? 'There is no end of my kind treatment from the faculty,' writes Pope, a few weeks before he died; 'they are in general the most amiable companions and the best friends, as well as the most learned men I know.'"

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Summary.

PERISCOPE OF RENAL AND URINARY PATHOLOGY.

1. The *Cincinnati Lancet and Clinic* (Aug 7, 1880) reports a case from *Le Praticien* in the practice of M. Hardy, in which the presence of indican in the urine was regarded as important in establishing the diagnosis in a doubtful case of typhoid fever. Exactly what relation indican bears to typhoid, more than to any other continued fever, is not stated.

2. "Extirpation of the Kidney. Death on the fourth day after operation." By Fred. Lange, M.D. New York: *Med. Record*, Aug. 7, 1880.

Dr. Lange's case is one of great pathological and surgical interest. He extirpated the right kidney, after careful and repeated examinations, assisted by other medical gentlemen. A diagnosis of pyonephrosis, involving the right kidney was made. The left kidney was supposed to be in a healthy condition, mainly because, when the symptoms pointed to the conclusion that the right ureter was closed temporarily by pus and products of degeneration from the tumefied, tender and painful right kidney, the discharge of urine became suddenly normal (or very nearly so) as to quality and did not lessen in quantity. As Dr. Lange says: "nothing was more probable than to assume that the (right) ureter was now completely or almost completely obstructed, and that the urine was discharged from the other (left) side." The patient demanded that something "decisive" be done. Accordingly Dr. Lange "proposed an exploratory incision" with the intention of removing the diseased organ or incising it, as should seem wisest. It was thought best, upon reaching the diseased organ, to extirpate it, as it seemed to be wholly devoid of functional

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power, and the left kidney was still regarded as healthy. The patient rallied well from the operation, "and presented a good condition, complaining merely of pain in her back and right hip. * * * not a drop of urine was found in the bladder until her death, which occured on the fourth day, eighty-four hours after the operation."

The post mortem readily explained the immediate cause as well as the mode of death, which was in a state of profound coma. We quote Dr. Lange's language: "The left kidney, which was removed by autopsy, consists of several cystic cavities, two of which contain a fluid-like urine; one of about the size of a hen's egg was filled with thick, cheesy matter. There is no trace of tissue of the kidney left. The pelvis of the kidney is entirely obliterated and so is the ureter. Probably for a number of years no urine has been secreted from this organ. The disease which caused this degeneration might have occurred in the patient's earliest childhood, at least she could not remember having had any trouble in this side. The organ was at its normal place, and although cystic, it was only slightly increased in size and its shape was not materially changed from the normal. * * * The other kidney, the right one, which had been removed by operation, was about double the size of a normal one. In a longitudinal section it is seen that it consists essentially of two parts; one, embracing about the upper two-thirds, is solid, presenting tissue of the kidney in a state of hypertrophy, measuring from two to three centimeters in height. The uppermost edge has a very irregular surface, and here the tissue is scattered with small knot-like infiltrations, measuring from several millimeters to one centimeter in size. * * * A part of this tissue has been removed for microscopical examination. All those spots seem to be beginning abscesses. Some of them present a yellowish purulent appearance; others a more recent infiltration. The pelvis of the kidney, so far as it belongs to these upper two-thirds, presents a normal appearance. The lower third of the kidney is composed of a number of cysts, the largest being about the size of a small hen's egg. Those cysts contained urine and pus and seemed not to have any connnection with the pelvis. But a careful examination shows that there exist several narrow canals lead-

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ing to the pelvis." The further description of the lower third of the right kidney shows that it was in an extreme state of cystic degeneration. The total amount of renal tissue capable of any functional duty possessed by the patient was the "upper two thirds of the right kidney, and even that was in a condition far from normal. Dr. Lange's grounds for concluding that the left kidney was healthy were certainly just and reasonable. He seems to us to have been unusually careful and painstaking in his diagnosis, and yet he was, as he says, "induced to perform an absolutely deadly operation." Dr. Lange's candor and honesty in relating this unfortunate case is worthy of all commendation.

3. "On a Filiaria reported to have come from a Man." (*Medical News and Abstract*, Sept., 1880.)

Prof. J. Leidy describes, in the "Proceedings of Acad. of Nat. Sci. of Phila. for March, 1880," a large thread worm, which had been submitted to his examination by Dr. J. J. Woodward, U. S. A. It was recently presented to the Army Medical Museum by Dr. C. L. Garnett of Buffalo with the following explanation: "During the winter of 1876 a common laborer presented himself to me for treatment, having a gleety discharge from the urethra with a burning sensation during and after micturition. Previously he had been treated for gonorrhœa, and I prescribed accordingly. The patient not improving, applied to other practitioners. In April, 1878, he came to me with a round, vivid-red worm, twenty-six inches in length, which was alive and very active in its movements, instantly coiling up like a watch spring on being touched. The patient is an illiterate man with no motive for deception. He informed me that he discovered the worm protruding from his penis and drew it out without pain or difficulty. Prof. Leidy says "if it really is a human parasite, it appears to differ from all those heretofore described, and also seems different from other known parasites; and "for the present," he proposes to "distinguish it with the name *Filiaria Restiformis*." (But how did the worm find its way into the patient's bladder and how long did it remain there before passing away?)

4. The Sphygmograph in the early diagnosis of Bright's disease. *British Med. Jour.*, Aug. 14, 1880.

We quote from Dr. John Buckley Bradbury's "Address on

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Medicine," before the British Medical Association, at its late meeting, the following very interesting observations concerning the value of the sphygmograph in the diagnosis of commencing Bright's disease:

In the field of medicine to which the sphygmograph has been used, the harvest has been more abundant than in the case of the laryngoscope, chiefly owing to the researches of Burdon Sanderson having been elaborated by Galabin, Mahomed, and others. In his thesis, read in 1873, for the degree of M.D. in this University, Dr. Galabin, formerly Fellow of Trinity College, corroborated the views of Burdon Sanderson, George Johnson and others, on the use of this instrument in estimating the amount of arterial tension, as gauged by the height of the tidal or predicrotic wave of a pulse-tracing; and for the first time pointed out that high arterial tension exists in acute as well as chronic Bright's disease. The condition of high-blood pressure is of the greatest importance clinically, and should be watched and estimated as carefully as the body-temperature, as there is no doubt it will be when the sphygmograph has been further simplified. High blood-pressure gives the earliest indication of the grave series of degenerative changes throughout the body known as chronic Bright's disease, and may, if neglected, lead to disastrous results both in disease of the arteries and of the heart. High blood-pressure is the cause of all so-called heart-disease in old persons; it is very amenable to treatment, and its treatment is imperatively necessary. Dr. Galabin writes: "I believe that one of its (sphygmograph's) successful applications would be to estimate the probable duration of life, by showing how far the vascular system has undergone the changes to which it is subject with advancing years, or which may be the only indication of commencing Bright's disease.

Dr. Handfield Jones has recorded a series of cases in which, without albuminuria or other symptoms of Bright's disease, the spygmograph has sufficed to diagnose the disease, the high-pressure in the pulse being really its pathogomonic symptom. Of the value of the high tension in prognosis he thus writes: "If I were bold enough to be a prophet, I should point to the time when the elder folks, instead of waiting until they have had a

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stroke of apoplexy or a touch of paralysis, or are laid up with arterio-capillary fibrosis or morbus Brightii, and then hurriedly summoning a physician to do impossibilities, will seek his advice betimes, asking him to supervise their vital functions, regulate their mode of life, and teach them to stay the morbid changes which they know may be silently progressing."

"In a paper published in 1874, Dr. Mahomed tried to show that a chronic condition of high blood-pressure led to arterio-capillary fibrosis. This view he has further elaborated in a paper in the last volume of the *Guy's Hospital Reports*, where he says that the hard pulse—the pulse of high tension—is *the* sign of Bright's disease; and that it should altogether replace albuminuria, for this is only exceptionally present."

"High blood-pressure gives rise to many functional as well as structural disorders. In the paper referred to, Dr. Mahomed described the occurrences of this condition in an acute and transient, as well as in a chronic and permanent, form, as the result of certain blood-poisons, and as an *antecedent* of kidney-disease. He has also demonstrated its existence in pregnancy. and thus indicated the connection between pregnancy and kidney-disease (so-called), and thus with puerperal eclampsia."

"This condition of high blood-pressure, appears to be recognizable early in life, before it has given rise to any structural changes or symptoms, and may be described as depending on the *diathesis*, or less correctly on the *temperament*, of the person. It is a condition which, when once detected, should be closely watched and treated, otherwise it will develop into chronic Bright's disease. * * * * *"

"The possibility of recognizing Bright's disease in its pre-albuminuric stage by means of the sphygmograph leads me to think, with Dr. Handfield Jones, that this instrument has a great future before it. When people become wise enough to pay their doctors for keeping them in health by periodically examining them to see if there be any abnormal change taking place in their bodies, the sphygmograph must come into general use in our profession. How many valuable lives might be prolonged if this suggestion which I have thrown out were acted upon! An indigestion, with increased arterial tension, is, as Dr. Saundby and others have

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shown, the forerunner of Bright's disease; and this functional stage of the malady is probably quite amenable to treatment. This condition of high arterial tension occurs in those who eat too much nitrogenous food for the exercise they take, and thus overtax their digestive organs and load their blood with imperfectly assimilated food. * * * *"

"One other point of great importance, in reference to albuminuria and arterial tension, which must not be altogether passed over, is the so-called "Albuminuria of Adolescents," which was the subject of a paper by Dr. Moxon in the *Guy's Hospital Reports* for 1878. In those cases of albuminuria which occur in young men from the age of sixteen to twenty-two, the albumen is not always present in the urine, but intermits; it is generally, however, present in the urine at some period of the day, most frequently in that passed after breakfast. These patients are usually languid, listless, complaining of headache, are anæmic, and "generally out of condition;" but after a variable time, under the influence of tonic treatment, the albuminuria usually entirely disappears, and the patient's health is restored. Now, in these cases of albuminuria, the arterial pressure is quite normal, or low rather than high. I have seen several cases of this description amongst the undergraduates of the University and others, and it is of the utmost importance to recognize them clinically; for the prognosis in them is favorable, and the line of treatment to be adopted the very opposite of that which obtains in cases of albuminuria with high arterial tension. I am disposed to agree with Sir William Gull, that the albuminuria in these cases is due to atony of vessels and nerves. He says, that albuminura occurs in young and growing men and boys almost as frequently as spermatorrhœa."

In reference to this subject, Dr. George Johnson maintains, "first, that this latent albuminuria—albuminuria, that is, unassociated with any other evidence of functional disorder or structural disease—may, by a careful inquiry, be traced back, in a very large proportion of cases, to some probable exciting cause; secondly, that the presence of even the smallest trace of albumen in the urine is always pathological, never physiological; and that the neglect of this indication of a pathological condition and ten-

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dency, especially such negligence as involves repeated exposure to the exciting cause, may convert a temporary and occasional into a persistent albuminuria, which, sooner or later, though it may be after many years, will result in a fatal disorganization of the kidney."

"The probable causes of such albuminuria are, in Dr. Johnson's opinion, either (1) imperfect recovery from an acute renal attack; or (2) exposure to cold and wet, especially after being overheated and fatigued by prolonged or violent exercise (common in boys at school); or (3) imprudently prolonged cold bathing; or (4) excessive consumption of animal food and of alcoholic stimulants, either separately or combined; or (5) inveterate dyspepsia in persons of strictly temperate habits; or (6) mental anxiety; and, in some cases, a combination of two or more of these causes."

"There can be no doubt that, at the present time, physicians do not regard simply the presence of albumen in the urine as so serious a sign as they would have done ten years ago. The late Dr. Murchison regarded some cases of albuminuria as due to hepatic derangement. In his work on *Disease of the Liver*, second edition, p. 573, he writes as follows: "There are, also, reasons for believing that albuminuria may be induced by hepatic derangement, independently of structural disease of the kidneys. It is now generally acknowledged that albuminuria, even when copious, and in the absence of any acute febrile disorder, does not necessarily indicate renal disease. Very often in these cases the albuminuria is intermittent or remittent, and the albumen has peculiar chemical characters; the previous addition, for example, of a few drops of mineral acid preventing to an unusual extent the subsequent coagulability by heat. Errors in diet are one of the most common causes. In some persons peculiarly constituted, temporary albuminuria is a constant result of certain articles of food, such as uncooked eggs. In several instances, I have known the urine passed at night to contain albumen, often associated with lithates and a high specific gravity, whereas the morning urine was clear, of low specific gravity, and contained no albumen. Again, in certain cases of exophthalmic goitre, the urine at some hours of the day, usually after food, is loaded with albumen, whereas at others it contains none; and this state of

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matters may last for many months, and then completely disappear. Now it is not contended that, in all these cases, the liver is the organ primarily at fault, but certainly in some there is good reason for believing it to be so, the albuminuria being unattended by any other symptom of renal disease, being variable in quantity and sometimes absent, and the urine being of normal quantity, of high specific gravity, and habitually loaded with lithates, lithic acid, oxalates, and pigments, and there being very often cutaneous eruption, dyspepsia, and other evidence of hepatic derangement. I have met with several instances of this sort, where the patient was subject to severe attacks of what at first seemed to be hepatic colic, but where there was no jaundice, and the paroxysm was followed by a temporary, yet extraordinary, increase of lithates and albumen in the urine. Lastly, so often have I observed albuminuria associated with hepatic disorder, which has disappeared completely and permanently when this has been set to rights, that I have little doubt that we have, in the liver, a cause of albuminuria to which attention has not hitherto been sufficiently directed."

"Before leaving the subject of albuminuria, I would especially invite the general practitioner in medicine to help us to solve the meaning of this intermittent appearance of an abnormal substance in one of the secretions. They have opportunities of watching cases in private from day to day, and of knowing the habits of their patients better than a physician, who is only consulted occasionally. It is of the utmost importance that the question should be settled as to whether these forms of albuminuria are due to removable causes, such as indigestion, etc., or whether, as Dr. Dickinson would have us believe, they represent the initial stages of granular degeneration of the kidney."

5. "On Occipital Headache as a symptom of Uræmia" (Cincinnati Lancet & Clinic), Dr. E. C. Seguin says: "I have recently met with two cases in which occipital headache was so localized and persistent as to give rise to a strong suspicion of organic disease of the cerebellum, and in one of them a positive conclusion was only reached by means of a post mortem examination. These cases both now appear to have been cases of contracted kidney and uræmia."

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6. "Recent Studies in Albuminuria," by H. S. Kilbourne, M. D., Asst. Surgeon, U. S. A. (Buffalo Med. and Surg. Journal, Sept. 1880.) Dr. Kilbourne's paper is mainly a *résumé* of the recently expressed views of Saundby, Duke, Johnson, Mahomed and others, but we quote the following observations of Leube, which Dr. Kilbourne thinks "seem to prove the possibility of albuminuria in the physiological state:"

Leube undertook his researches on the garrison of Erlangen and took the necessary precaution to exclude cases of blennorrhagia. Fresh urine was filtered and a certain quantity boiled; the remainder was treated with nitric acid, both being compared with the intact urine on a block tablet. To the urine which showed opacity a small quantity of acetic acid was added to precipitate the deposit. The precipitate was washed and treated with Millou's fluid and also tested with Liq. Potass. Leube examined the night urine of 119 soldiers. The number of observations was 154, which were thus divided: 90 soldiers were examined once, 23 were examined twice on two different days, and six were examined three times at intervals of three days. Of 154 examples of nocturnal urine, only a small quantity was found in 5 cases and in one case in notable proportion.

Examination of the urine secreted during the day, after military exercise, and in the months of June, July and August gave different results. Of 5 soldiers who had shown albumen in the night urine, a larger quantity was found during the day, and albumen was found in 18 soldiers who had not shown any in the night urine. Stated as a percentage, the morning urine was albuminous in 5 of 119 soldiers, i. e., in 4.2 per cent. That of the middle of the day was albuminous in 19 of 119, i. e., 16 per cent. The day urine only was albuminous in 14 of 19, i. e., 11.8 per cent., and, finally, the urine was equally albuminous in 5 of 119, i. e., 4.2 per cent.

The quantity of albumen in the urine most heavily loaded was 38 milligrammes per cent.

At the International Medical Congress, held in Amsterdam, September, 1879, Prof. Semmola in a *résumé* (*British Medical Journal*, September 27, 1879) of his researches in 300 cases of Bright's disease, presented to the medical section, said: The

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passage of albumen into the urine may take place through the three physiological factors that preside over the renal functions, viz.: *a*, chemical constitution of the blood; *b*, degree of pressure; *c*, condition of the histological elements of the kidney. Accordingly there are three classes of albuminuria, viz.: *a*, dyscrasic albuminuria; *b*, mechanical albuminuria; *c*, mechanical albuminuria produced by irritation, i. e., by histological changes in the kidney.

Bright's disease cannot be placed exclusively under either of these heads. It is a mixed albuminuria. Its complicated eitiological mechanism contains all the three mechanisms of the other classes of albuminuria, and it forms a pathological specialty that has nothing whatever to do with the other classes of this affection. The most characteristic phenomenon of Bright's disease, he thinks, is the defective formation of urea. This would be indicated, not by specific gravity of the urine, but by the weight of urea excreted.

UNDER date of May 14th, 1880, Dr. Chas. W. Robbins, of Milwaukee, Wis., makes a brief record of an exceptional case. Mr. M., aged 38, had his left testis removed for malignant disease, in the year 1874. The right gland became similarly affected during the course of the succeeding year, and was subsequently removed by Dr. Marks, of Milwaukee. For the past few months, the cord of the left side, which had not been completely extirpated when the first operation was performed, has been excessively painful, and it was removed on the 13th of May by Dr. Marks, assisted by Dr. Robbins. The patient stated that, since the removal of the second gland, he has regularly had sexual desire, erection and coitus, not apparently differing from that in which he indulged before castration.

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Items.

LIST OF BOOKS WHICH WILL BE FOUND VALUABLE TO CANDIDATES FOR EXAMINATION IN SANITARY SCIENCE BY THE MICHIGAN STATE BOARD OF HEALTH.

The books are here classified the same as the topics published in the Regulations for the Examinations. The nccessity of reading all of the books is not urged.

I.—Introduction to the study of Biology. H. Alleyns Nicholson. Appleton & Co., New York, 75 cents. Article on Biology in Encyclopædia Britannica and in other Cyclopædias.

II.—(*a.*) Theory of Probabilities. M. A. Quetelet, translated by O. G. Downs. C. & E. Layton, London, England, $5.50. Articles on Statistics and Vital Statistics in various cyclopædias. Essays and Papers on Some Fallacies of Statistics. H. W. Rumsey. Smith, Elder & Co., London, England, 12 shillings. Vital Statistics of Michigan, Annual Reports 1868–1874. Article—Report on Methods of Collection of Vital Statistics in Report of Michigan State Board of Health for 1876. Article on "Weekly Reports of Diseases in Michigan." Annual Reports Michigan State Board of Health, 1878–1880. (*b.*) Vital Statistics of Michigan for 1872 and subsequent years. Annual Reports of the Michigan State Board of Health, 1878–1880. Articles on "Weekly Reports of Diseases," and "Principal Meteorological Conditions in Michigan." (*c.*) Filth Diseases and their Prevention. John Sineon, M.D. James Campbell, Boston, Mass. Disposal of Slop Water in Villages. C. B. Fox J. & A. Churchill, London, England, 18d. Healthy Houses. Fleming Jenkin, F.R.S., adapted to American Conditions by George E. Waring, Jr. Harper's Half-Hour Series, 25 cents. House Drainage and

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Water Service. James C. Bayles. David Williams, New York, $3.00. Wilson's Handbook of Hygiene. Blakiston, Philadelphia, $3.00. Hart's Manual of Public Health. Smith, Elder & Co., London, England, 12s. 6d. (*d.*) Anstie on Stimulants and Narcotics. Blakiston, Philadelphia, Penn., $3.00. Tables, etc., on Mortality by Occupations, in United States Census, and in Vital Statistics of Michigan, 1868–1874. (*e.*) Disease Germs; Their Nature and Origin. L. S. Beale. Blakiston, Philadelphia, $5.00. The Germ Theory of Disease. Mælagan. Macmillan & Co., London, England, $3.00. *Lectures on the Theory and General Prevention and Control of Infectious Diseases, by Jas. B. Russell. James Maclehose, Glasgow, Scotland. Fermentation. Schützenberger. Appleton & Co., New York, $1.50. Practical Biology. Huxley and Martin. Macmillan & Co., London, $1.50. Air and its Relations to Life. W. N. Hartley. D. Appleton & Co., New York, $1.50. Article on Origin and Propagation of Disease. John C. Dalton, M.D., read before the New York Academy of Medicine. Smithsonian Report, 1873. (*f.*) *Lectures on the Theory and General Prevention and Control of Infectious Disease. Jas. B. Russell, James Maclehose, Glasgow, Scotland. (*g.*) Parkes' Hygiene, edited by De Chaumont, Blakiston, Philadelphia, $6.00. Documents on "Restriction and Prevention of Scarlet Fever;" on "Restriction and Prevention of Diphtheria;" Circulars 34 and 35; issued by the Michigan State Board of Health, Lansing. *Lectures on the Theory and General Prevention and Control of Infectious Diseases, by Jas. B. Russell. James Maclehose, Glasgow, Scotland. Annual Reports of the Michigan State Board of Health, 1876–1880.

III.—(*a.*) Attfield's General Medical and Pharmaceutical Chemistry, 8th Revised ed. Henry C. Lea's Son & Co., Philadelphia, Penn., $2.50. *Lectures on Air, Water Supply, Sewage Disposal, and Food. William Wallace. James Maclehose, Glasgow, Scotland. Letheby on Food. Wm. Wood & Co., New York, $2.25. Hassells' Food and its Adulterations. Longmans, Green & Co., England. Parkes' Hygiene, edited by De Chaumont, Blakiston, Philadelphia, $6.00. Wanklyn and Chapman's

*The lectures by James B. Russell, M.D., and William Wallace, are published in one volume by James Maclehose, Glasgow, Scotland; price, 1s. Adams and Co., London, England.

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Water Analysis. Trübner, London, England, $2.50. Frankland's Water Analysis for Sanitary Purposes. Blakiston, Philadelphia, $1.00. (*b.*) Loomis on Meteorology. Harper, New York, $1.75. (For reference.) Air and Rain. R. Angus Smith. Longmans, Green & Co., London, 34s. Annual Reports of Michigan State Board of Health for 1874, article on "Meteorology of Central Michigan;" 1875, directions for taking meteorological observations, also an article on Ozone; 1878–1880, articles on "Principal Meteorological Conditions in Michigan." Air and its Relations to Life. W. N. Hartley. D. Appleton & Co., New York, $1.50.

IV.—Sanitary Engineering. Baldwin Latham. E. and F. Spon, London, England. Sanitary Engineering. J. Bailey Denton. E. & F. Spon, London, England. Parkes' Practical Hygiene, edited by De Chaumont. Blakiston, Philadelphia, $6.00. House Drainage and Water Service. James C. Bayles. David Williams, New York, $3.00. The House and its Surroundings. D. Appleton & Co., New York, 40 cents. Sanitary Houses. Two Lectures, by James A. Russell, A.M., M.B., etc. Maclachlan and Stewart, Edinburgh. Simpkin, Marshall and Co., London, England. Sanitary Work in Towns and Villages. Charles Slagg. Crosby, Lockwood & Co., London, England. Sanitary Work in Villages and Country Districts. George Wilson. J. & F. Churchill, London, England, 18d. *Lectures on Air, Water Supply, Sewage Disposal, and Food. William Wallace. James Maclehose, Glasgow, Scotland. Healthy Houses. Wm. Eassie. D. Appleton & Co., New York, $1.00.

V.—House Drainage and Water Service. James C. Bayles. David Williams, New York, $3.00. Handbook for Inspectors of Nuisances. Edward Smith, M.D. Knight & Co., London, England, 5s. *Lectures on the Theory and General Prevention and Control of Infectious Diseases. James B. Russell. James Maclehose, Glasgow, Scotland. The Sewage Question—with special reference to Traps and Pipes. H. Fergus, M.D., M.R.C.S. Porteus Brothers, Glasgow, Scotland, 18d. Annual Reports of the Michigan State Board of Health, 1873–1880. Schedule for Sanitary Survey of a City. Am. Public Health Association

* The lectures by James B. Russell, M.D., and William Wallace, are published in one volume by James Maclehose, Glasgow, Scotland; price, 1s. Adams and Co., London, England.

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Published by U. S. National Board of Health, Washington, D.C. Sanitary Inspection of Memphis, Tennessee, Schedules and Report. National Board of Health, Washington, D. C.

VI.—Compiled Laws of Michigan, 1871. Public Health Enactments in Session Laws of Michigan since 1871, particularly late ones, 1877, 1879 and 1881 (?), with index of laws amended, etc. Public Health Laws of Michigan. Pamphlet, 1876, State Board of Health, Lansing. Postage, 3 cents.

In all cases where known, the price of the book, and the name of the American publisher has been given.

HENRY B. BAKER, *Secretary.*

OFFICE OF STATE BOARD OF HEALTH, LANSING, MICH., July 30, 1880.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES. April 1, 1880, to June 30, 1880.

BAILHACHE, P. H., Surgeon. Detailed as chairman of board for the physical examination of officers of the Revenue Marine Service, April 28, 1880. Detailed as chairman of board for the physical examination of candidates for appointment as cadets in the Revenue Marine Service, May 21, 1880. Detailed as medical officer Revenue Bark "Chase" during practice cruise, June 1, 1880.

MILLER, T. W., Surgeon. Detailed as chairman board of examiners to convene in New York, June 21, 1880, June 4, 1880.

LONG, W. H., Surgeon. Granted leave of absence for ten days from April 16, 1880, April 14, 1880. Detailed as member of board to select a site for a Marine Hospital at Memphis, Tennessee, May 12, 1880.

FESSENDEN, C. S. D., Surgeon. Detailed as member board of examiners to convene in New York, June 21, 1880, June 4, 1880. Granted leave of absence for eight days from June 13, 1880, June 9, 1880.

SAWTELLE, H. W., Surgeon. Detailed as recorder of board to select a site for a Marine Hospital at Memphis, Tennessee, May 12, 1880.

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DOERING, E. J., Surgeon. Detailed as recorder board of examiners to convene in New York, June 21, 1880, June 4, 1880.

FISHER, J. C., Passed Assistant Surgeon. Granted leave of absence for thirty days from May 6, 1880, April 21, 1880. Detailed as recorder of board for the physical examination of officers of the Revenue Marine Service, April 28, 1880.

GODFREY, JOHN, Assistant Surgeon. To report to board of examiners for examination for promotion, June 4, 1880.

BROWN, F. H., Assistant Surgeon. To act as inspector of unserviceable hospital property at Boston, Mass., April 13, 1880. To report to board of examiners for examination for promotion, June 4, 1880.

GOLDSBOROUGH, C. B., Assistant Surgeon. Detailed as recorder of board for the physical examinination of candidates for appointment as cadets in the Revenue Marine Service, May 21, 1880.

KEYES, H. M., Assistant Surgeon. To act as inspector of unserviceable hospital property at St. Louis, Mo., April 13, 1880.

MEAD, F. W., Assistant Surgeon. To act as inspector of unserviceable hospital property at San Francisco, Cal., April 19, 1880.

PORTER, F. D., Assistant Surgeon. Granted leave of absence for fourteen days from July 2, 1880, June 29, 1880.

PROMOTION.

FISHER, J. C., Passed Assistant Surgeon. Promoted to be Passed Assistant Surgeon, April 2, 1880.

AN irreparable loss is that sustalned by the Vienna school and the profession of medicine the world over, in the death of Professor Hebra. As an author, clinicien, and teacher of dermatology, he stood without a rival, and his numerous pupils scattered throughout all countries, must now promote that work which the great master only abandoned with his life. He was buried in the Hemals cemetery, in a grave not far from that of his old friend Rokitansky. Prof. Heschl and other eminent gentlemen made eloquent addresses at the funeral ceremonies.

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SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Oct. 4 and 18.
West Chicago Medical Society—Mondays, Oct. 11 and 28.
Biological Society—Wednesday, Oct. 6.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes: 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLI.—NOVEMBER, 1880.—NO. 5.

Original Communications.

ARTICLE I.

CEREBRAL ANATOMY SIMPLIFIED. By S. V. CLEVENGER, M.D.

The human brain, like everything else in the universe, has been evolved from a simpler condition, and by a study of the forms through which the cerebrum has passed to its present complexity in man, we have been enabled not only to see the reasons for changes in appearances, but to simplify our methods of instructing students. I believe, with Prof. Burt G. Wilder, of Cornell University, that no medical student should be allowed to dissect the human cadaver until he has previously familiarized himself with the anatomy of the cat. If previous to this even, he should study the crayfish with Huxley's recent popular work on that crustacean as a guide, he will find that he not only has removed vast difficulties from his course of study, but will be able to continue through life an acquaintanceship with anatomical and physiological essentials, of which our present methods of teaching enable the average student to retain only a smattering, however industrious and earnest he may have been. In short, we

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cannot master human anatomy without a knowledge of comparative anatomy.

The primitive typical form of the mammalian cerebrum is as simple as this figure, an oblate spheroid:

In some fishes and birds it is globular, and therefore a still simpler form.

Rotate an ellipse about its shorter axis, and then cut the figure so produced into halves in the direction of its long axis, and the low form of the hemisphere from which we start is obtained. We have now a flattened surface which has been created by the two right and left lobes pressing against each other as the brain grew faster than the skull. In some fishes the original spherical appearance of the two lobes may be seen. The fissure which separates the two hemispheres is called the GREAT LONGITUDINAL FISSURE, and this cleft is along the inner flattened faces of the hemispheres, each of which surfaces is known as the MEDIAN SURFACE. The EXTERNAL SURFACE is the outermost and uppermost part. The BASILAR SURFACE is simply the lowest or under part of the cerebrum.

Draw two parallel lines lengthwise upon the external surface. These lines are sulci or little fissures produced by the folding in of the soft brain tissue as it develops more rapidly than the bones of the skull expand:

One such furrow may be seen on the hedgehog's cerebrum, the other is added in higher animals. But at the same time there appears another lobe growing in front of this; it is the frontal. The smallest frontal lobe, speaking relatively, is owned by the kangaroo, and adhering to our schematic representation is shown in the above cut. In the horse we find that these two lobes have crowded together, the frontal having grown much larger, but the

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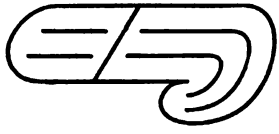
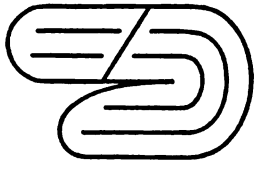
original line of junction between the two is still evident in a fissure which in the elephant, monkey and man is called the SULCUS OF ROLANDO:

This frontal lobe or subsequent growth also has the two longitudinal cracks in the highest mammalia. But the skull still obstinately maintains its rigidity, lifting a little on top as we pass up the scale of animals. The hemispheres press back over the cerebellum only at this stage of high development; previously the cerebellum was uncovered by the cerebrum, and now another change begins. As the frontal lobe continues to grow, it crowds the occipital part back, and the latter cannot extend in the same direction any longer, but finds room below in the posterior part of the skull, whereupon this appearance is presented:



Where the posterior lobe folds under, the temporal lobe is forming, and the three great divisions of the cerebrum are more evident—the FRONTAL, OCCIPITAL and TEMPORAL LOBES. The first two are separated by the sulcus of Rolando, the last-named from the occipital by the large fissure, created by this folding-under process—the FISSURE OF SYLVIUS. The elephant's brain exhibits just this stage of development, and it is also to be seen in the human embryo.

In accomplished development the scheme of the cerebral fissures and sulci of man would be thus represented:



The temporal lobe passing forward as the olfactory lobe of quadrupeds diminishes in size and makes room for it.

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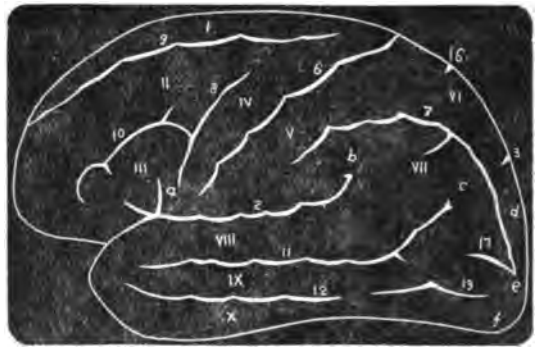
But by gradual filling in of certain portions of sulci, breaks are made in their continuity and the system of folds is rendered complex. The original derivation, however, is not completely masked, for we may still trace the primitive furrows into the fully developed cerebrum of man.



The convolutions marked I, II, III, correspond in the frontal lobe to those marked X, IX, VIII. The upper posterior convolution VI being a continuation of X, while the point c of the fissure 11 has been pushed back by filling in of the space anterior to it.

The deeper furrows are known as fissures, and those less deep or constant as sulci. The numbers and letters in the following list correspond with those of the figure above:

CONVOLUTIONS OF THE EXTERNAL SURFACE.—I. Superior Frontal. II. Middle Frontal. III. Inferior Frontal. IV. Ascending Frontal. V. Ascending Parietal. VI. Superior Parietal. VII. Inferior Parietal. VIII. Superior Temporal. IX. Middle Temporal. X. Inferior Temporal.

The fissures and sulci of the external surface are: 2. Fissure of Sylvius. 6. Sulcus of Rolando. 7. Parietal Sulcus. 8. Præcentral Sulcus. 9. Superior Frontal Sulcus. 10. Inferior Frontal Sulcus. 11. Superior Temporal Sulcus. 12. Middle Temporal Sulcus. (Prof. Pansch, of Kiel, calls this the Inferior by discrediting the existence of the Inferior of other authors.) 17. Transverse Occipital Sulcus. 19. Inferior Longitudinal Occipital Sulcus.

Small parts of the convolutions conveniently designated Gyri are known as: a. the operculum (injury to which causes aphasia). b. Supra marginal gyrus. c. Angular gyrus (lesion of b and c causes blindness, etc). d. First occipital gyrus. e. Second occipital gyrus. f. Third occipital gyrus.

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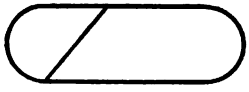
The median surface development proceeds in animal life as follows: With the advent of the frontal lobe, its inner face fuses with the occipital, or what becomes afterwards the parietal part of the occipital, on a line which divides the inner surface just as the sulcus of Rolando divided the external surface:



But the corpus callosum appeared in forms of life above the marsupials and prevented the backward extension of this crack. It had to pass backward over the corpus callosum thus:

And in this figure we see the corpus callosum (a broad band of fibres connecting opposite hemispheres, with the CALLOSO-MARGINAL SULCUS just above it.

As the hippocampus major was curled under and forward by the frontal lobe pressure, the rotation of it and the fornix, together with the resistance of the skull behind, folded in the PARIETO-OCCIPITAL FISSURE, which in monkeys extends across the external surface, but in man has been filled in upon that part:

When the calcar avis or hippocampus minor developed in the ape's brain, another fissure, the CALCARINE appeared:

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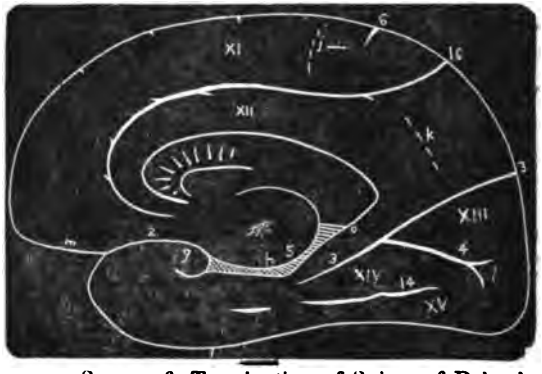
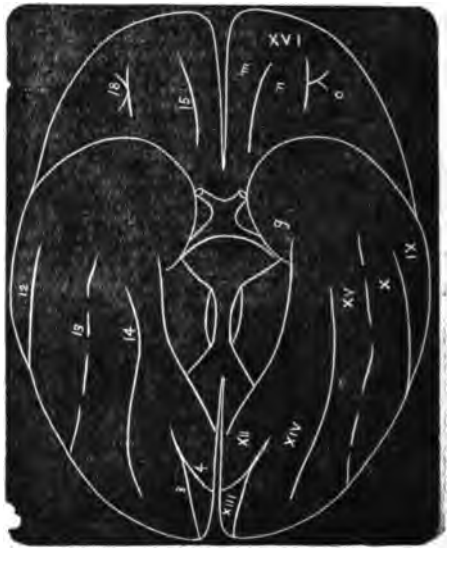
The fully developed Median surface of the cerebrum is represented in this cut:



FISSURES AND SULCI.—6. Termination of Sulcus of Rolando. 16. Calloso-marginal Sulcus. 3. Occipito-parietal Sulcus. 4. Calcarine Fissure. 5. Hippocampal Fissure. 14. Collateral Sulcus.

CONVOLUTIONS AND GYRI.—XI. Marginal Convolution. XII. Fornix Convolution. XIII. Cuneus Convolution. XIV. Median-Occipito-Temporal Convolution. g. Uncinate (or hook) gyrus. h. Dentate gyrus. j. Paracentral gyrus (lesion here always causes paralysis). k. Præcuneus or Quadrate lobule. l. Descending gyrus.

This last cut shows the convolutions and furrows on the Basilar Surface:



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Some of these parts have been mentioned under the heads of the other surfaces, as they may appear upon two surfaces. Those most clearly basilar are:

FISSURES AND SULCI.—13. Inferior Temporal Sulcus (which is an extra fold in the human brain due to the same causes that created the original external furrows—want of cranial osseous expansion). 15. Olfactory Sulcus (produced by the olfactory lobe, which in man has dwindled to a mere tract.) 18. Orbital Sulcus (which lies directly over the orbit and is created by lateral and frontal pressure).

CONVOLUTIONS AND GYRI.—XV. Lateral Occipito-Temporal Convolution. XVI. Orbital Convolution. m. Gyrus Rectus (inwards from and along olfactory sulcus). n. Middle Orbital Gyrus. o. Lateral Orbital Gyrus.

In addition to such fissures and sulci as are of constant appearance, a great number of sulculi or lesser furrows of an inconstant nature are also present, these of course cannot be enumerated. In young children and imbeciles the sulcus of Rolando will be found much farther toward the front than in fully developed brains. This is because the frontal lobe has suffered arrest of growth. This sulcus appears very close to the front in idiots and their retreating foreheads are cranial adaptations to this cerebral defect.

There are several expensive plaster models of the cerebrum on sale, one of the poorest of which retails for about ten dollars. Several much better models by German and French anatomists of note are also on the market, but their cost places them beyond the reach of the many. I have carefully examined the literature of the subject up to very recent dates, and by combining authoritative descriptions with a great number of casts I have made of brains from hospitals and insane asylums in Illinois, have recently had a large number of copies of my model made and placed on sale at two dollars each. They may be purchased of E. H. Sargent & Co., surgical instrument dealers, No. 125 State street, Chicago. The price fixed barely covers the expense of their manufacture. At the outset I had no intention of having these casts made, but, having been called upon for so many copies, I felt compelled to hand the model and its copying over to the medical supply store mentioned.

By means of this cheap cast, with this paper, and even as inaccurate a work as Gray's Anatomy, the student can in a few hours master much of the subject; but, as before remarked, it is far better to study nature direct, if possible. In the *Journal of*

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Nervous and Mental Disease for October, 1879, April, 1880, and October, 1880, I have somewhat fully detailed my investigations and those of others. The articles referred to are respectively entitled "Cerebral Topography," "The Sulcus Rolando and Intelligence," and "The Plan of the Cerebro-Spinal Nervous System."

ARTICLE II.

BATTEY'S OPERATION. Discussion before The Chicago Gynæcological Society, September 17th, 1880. Introduced by A. REEVES JACKSON, M.D. President, DR. BYFORD, in the chair.

In September, 1872, Dr. Robert Battey, of Georgia, published an account of a new surgical operation which he denominated Normal Ovariotomy, and related a case in which he had performed it successfully. The patient was a young lady who was suffering from great impairment of health apparently dependent upon an excessive menstrual molimen, which was not relieved by the usual menstrual flow. All the customary remedies having failed to afford relief, Dr. Battey conceived the idea of artificially and prematurely determining the menopause by removal of the ovaries. This was accordingly done; and the patient recovered with greatly improved health.

This operation was repeated a number of times by its author and others, and the appellation first given to it by the former, being obviously a misnomer, it was re-christened and is now commonly known as "Battey's Operation."

The objects of the procedure are two-fold: (1.) To effect a cure of the various maladies present, by the removal of an ovary viciously or abnormally performing its functions. (2.) By the removal of both ovaries to put an end to ovulation and at once bring about the "change of life."

At the inaugural meeting of the American Gynæcological Society, held in June, 1876, Dr. Battey read a second paper, in which he gave the details of ten cases in which he had performed the operation down to that time; and, as a good deal of misunderstanding was prevalent among the profession as to what cases

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were proper for it, he stated that it was indicated "in the case of any grave disease which is either dangerous to life or destructive of health and happiness which is incurable by other and less radical means and which we may reasonably expect to remove by the arrest of ovulation, or 'change of life.'" In three of the ten cases reported by Dr. Battey, a single ovary was removed; in the remaining seven both ovaries were removed; the result being eight recoveries and two deaths.

In the following year Dr. Battey presented another paper to the American Gynæcological Society, entitled "Is There a Proper Field for Battey's Operation?" in which he details two more cases of the operation done by him, and specifies the indications for its performance as follows:

1. In those cases of absence of the uterus in which life is endangered or the health destroyed by reason of the deficiency, the removal of the ovaries is at once the hopeful, and the only means of permanent relief.

2. In cases where the uterine cavity or vaginal canal has become obliterated and cannot be restored by surgery, if grave symptoms be present, the removal of the ovaries becomes a last and only resort, and may be hopefully invoked in the case.

3. In cases of insanity, or confirmed epilepsy, dependent upon uterine and ovarian disease, the operation is justifiable as a last resort, and when other means of cure have failed.

4. In cases of long protracted physical and mental suffering, dependent upon monthly nervous and vascular perturbations, which have resisted persistently all other means of cure, the question of a resort to the operation is to be committed to the prudent judgment of the conscientious practitioner in each particular case.

In addition to the foregoing, the operation has been performed for the relief of other conditions; notably, for cases of fibroid tumors of the uterus in which excessive pain and hemorrhage could not be controlled by other means, for the removal of otherwise incurable, prolapsed ovaries, in which grave mental and physical sufferings seemed to depend upon the displacement, as for ovarian dysmenorrhœa.

In the performance of the operation Dr. Battey prefers the

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vaginal method, while many others, perhaps the majority of operators, prefer the abdominal.

Dr. George J. Englemann, of St. Louis, published a paper in the *American Journal of Obstetrics* for July, 1878, in which he gives the history of three fatal cases of the operation occurring in his own practice, and adds a table showing the result of thirty-six cases, in which the operation had been performed in this country and in Europe. Of this number there were 30.5 per cent. of deaths, and 69.5 per cent. of recoveries. Of those who recovered from the operation there were:

Cured	22.8 per cent.
Greatly Improved	11.4 "
Somewhat Improved	11.4 "
Not Improved	17.2 "
Made Worse	8.6 "

Now, if we add to the number of those who died, 30.5 per cent. the number of those in whom there was no improvement, 17.2 per cent., and those made worse, 8.6 per cent., we have a total of 56.3 per cent. of failures against 43.7 per cent. of successes; for while in ovariotomy, performed for the removal of cystic or other disease which is destroying the life of the patient, we count it a success when we save that life, a successful case of Battey's operation implies not only the saving of the patient's life, but also the removal or mitigation of her suffering.

Yet, notwithstanding this rather unfavorable showing, I heartily approve of the operation, although I believe it should be confined to a very limited field.

The points of special interest in this subject, and the ones to which I trust it may be the pleasure of the society to limit the conversation, are:

1. The proper indication for the operation.
2. The method of its performance.
3. The results.

DISCUSSION.

DR. NELSON recognized the importance of the operation in certain cases, but the danger to life and the risk of failure should prevent its becoming a frequent resort. It is a matter of impor-

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tance in operating that the entire ovarian tissue be removed, else the operation might fail in its results.

DR. MILLER asked concerning the indications for the operation: Are we to assume that the operation will cure all diseases which are said to constitute indications for it? For example, in the periodical attacks of epilepsy which some females suffer in ome connection with their menses, are we to hope that these attacks will cease after the operation? Is it true that ovarian irritation modifies epilepsy and makes it assume a particular character?

DR. SAWYER inquired as to the effect of this operation upon the sexuality of the subject. Do the feminine characteristics become less prominent in consequence of the contraction?

DR. BARTLETT remarked that the author of the operation had performed it before the Listerian method was in vogue, and now that this method is so well established we may hope for a smaller mortality from the operation. In reply to Dr. Miller, the speaker suggested that epilepsy might recur, after this operation, from habit.

THE PRESIDENT thought that the indications for this operation, which were generally laid down, were largely fanciful. For example, the absence of the uterus, the ovaries being present. He had met with seven such cases, but in no instance was there suffering such as would constitute an indication for this operation. Menstrual disturbances often depend upon the general condition of the patient. Hystero-epilepsy especially was one of these general disturbances. The speaker mentioned the case of a woman who had been under his notice for some years, from whom the ovaries had been removed for the purpose of mitigating the severe hæmorrhages incident to uterine fibroids. The operation had failed utterly, and the fibroids have constantly increased in size. In answer to Dr. Sawyer's question he would say, that in five cases in which the patient was interrogated there was absolutely no diminution in these sexual feelings. Nor was the appearance of the person changed. In this connection he desired to add that in three cases the menstrual flow had never appeared after the operation.

In conclusion, Dr. Jackson said: In deciding upon the proper-

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indications for Battey's operation we should remember that its author has never proposed it as an alternative for any other remedy; nor for any case in which other means have not been persistently and judiciously used and *failed*. He has always held that it should be looked upon as a last resort, more or less hopeful, in cases where there is nothing else to be done,—where the choice is between the operation, and the good it *may* accomplish, on the one hand, and the prolongation of a life of misery and wretchedness, or death, on the other hand. In this respect he has always shown himself exceedingly conservative.

So far as the statistics of the operation show, it has been more successful in relieving the pain and hemorrhages due to the presence of uterine fibrous tumors than in any other class of cases; six of this kind having been reported, with one death.

As regards the mode of performing the operation, I quite agree with the President (Dr. Byford), that the selection of the vaginal or abdominal method should depend upon the circumstances of the case. If the ovaries were low down, or could be easily pressed down so as to be felt through the vaginal vault; and if I could feel tolerably certain that they were not imbedded in inflammatory exudations, or that the neighboring structures had not been the seat of recent inflammation, I should prefer the vaginal route; although ordinarily I should select the abdominal. But, I cannot agree with the opinion expressed by him, that an unsuccessful attempt to operate by the vagina, would seriously complicate the case were we to find ourselves compelled to finish by way of the abdomen. It would not involve much loss of time to enable us to learn whether, from any cause, the operation, per vaginam, were feasible, or otherwise; and we could then proceed to open the abdomen in the usual manner and leave the vaginal opening for subsequent drainage, or close it as we might prefer.

There are two great objections to the vaginal mode. One is the uncertainty as to effecting thorough removal of the ovary, especially when it has become degenerated; and the other is, the very great difficulty in the way of checking hemorrhage in case it should occur. Dr. Battey, who prefers the vaginal operation, and has nearly always chosen it, found it impossible to remove all of the diseased ovarian tissue in four out of twelve cases.

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In reply to questions asked, I would say that it is now conceded on all hands that in any case requiring the operation, *both* ovaries should be removed.

The experience of Atlee, Battey, and others, together with that related here to-night by the President, and the facts in a case which occurred to myself, show very clearly, I think, that the womanhood of those who have undergone double ovariotomy is not changed in any respect by reason of the operation.

ARTICLE III.

THE LATEST EXPERIMENTS IN CONTAGION AND PROPHYLACTIC INOCULATION SUMMED UP. By H. D. VALIN, M.D., Chicago.

The author in his Inaugural Thesis on the Philosophy of Disease, presented to the medical faculty of the University of Vermont, in 1879, recapitulated thus the views held at that time by the best writers on the germ theory of disease: "The contagium of infectious diseases is regarded by some authors as too minute to be discovered by the microscope; by others, as bacteria which cannot be distinguished from those generally found in many pathological processes in the body. The spread of the contagium requires a region (an habitat) wherein it has always been endemic, as India for cholera, and Ireland for typhus fever, unless we accept for it a theory of spontaneous generation. It also requires a certain age, sex, and predisposition on the part of the individual, and its extension is promoted by warmth, moisture and filth; these accessory circumstances explaining how there may be degrees in contagion. Each infectious disease must, beside, have special bacteria assigned as its cause."

These conclusions, drawn from a perusal of the first three volumes of Ziemssen's Cyclopædia of the Practice of Medicine, were little more than theoretical, but recent experiments have strengthened the germ theory, and it may finally fill the gap so long left in the etiology of the most important diseases.

Prof. Lister read before the annual meeting of the British Medical Association an interesting paper upon "Micro-organisms:

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their Relation to Disease." It is thus recapitulated in the *N. Y. Medical Record:*

"Prof. Lister first detailed the results of the experiments of Dr. Koch, of Wolstein. By ingenious methods of staining, that investigator had been able to detect not only the *bacillus anthracis*, which causes anthrax, but he discovered other specific micro-organisms. These were the *bacillus septicæmiæ* and the chain *micrococcus*, the latter always causing gangrene when injected into house mice.

"The *bacillus septicæmiæ* is an extremely minute organism, and would be invisible unless stained. Dr. Koch had been able to prove that it always caused septicæmia, never pyæmia, when injected into mice.

"Prof. Lister then described the micro-organism discovered by Toussaint in fowls suffering from fowl-cholera. This fowl-cholera is a highly infectious blood disease, characterized by the swelling of the lymphatics of the neck, pericarditis and duodenitis, but without diarrhœa. The bacterium claimed to be the cause of the fowl-cholera, is oval shaped, multiplies by transverse constriction, and is about $\frac{1}{40,000}$ of an inch in diameter. Pasteur has cultivated this organism, and has been able to modify it, so that by injecting the modified fluid he can cause a mild form of fowl-cholera—protective against a second attack. In the same line of inquiry, Dr. Greenfield, by experiments, has recently shown that if a guinea-pig be inoculated with the blood of a heifer suffering from splenic fever, the former animal takes the disease; if now the blood of the guinea-pig be inoculated in a healthy heifer, it will protect it against splenic fever. Prof. Toussaint had performed similar experiments in regard to 'vaccinating' for anthrax. But he went further; he showed that the protective power is not conferred *by inoculating any form of the bacillus anthracis, but by inoculating the fluid in which it had grown.*"*

In conclusion, the speaker describes the ingenious experiments of Dr. Buchner, of Munich, by which he had transformed, by cultivation, the *bacillus anthracis* into the hay-bacillus and *vice versa*. A record of some of those highly interesting experiments follows as translated from the originals.

* Italics ours.

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Dr. Edouard Fournié, in his periodical,* thus analyzes the experiments on anthrax:

"The question of the contagious elements of disease has lately been revived, thanks to the communications of Pasteur, Colin (of Alfort), Chauveau, Poincaré and Toussaint on anthrax.

The paper which Pasteur lately presented to the Institute and the Academy of Medicine (Paris), aims at showing experimentally the nature and pathogeny of anthrax. The author does not recognize any spontaneous origin of diseases. Every one of these has its material cause, and anthrax is always produced by the *bacillus anthracis*. That was the point to be demonstrated.

In a first series of experiments, Pasteur fed several sheep some lucern which had been sprinkled with water holding bacteria and germinal corpuscles of the latter. In order to facilitate inoculation through abrasions, care was taken to mix thistles and beards of barley with the food. It resulted in the death of a few, and the survival of the majority of the animals, notwithstanding the enormous quantity of the bacteria injected. Autopsy showed the characteristic lesions of anthrax, having their starting point in the mouth and the pharynx.

In another series of experiments, Pasteur inoculated eight sheep with bacteria. All were taken sick with a rise in their temperature, but only one died; one had been inoculated under the tongue. These unexpected results contravene our knowledge the more as Pasteur claims to vaccinate efficiently fowls by submitting to them a food contaminated by the bacteria of fowl-cholera.

The foregoing experiments led Pasteur to suspect that cattle which die suddenly with anthrax, in the department of Eure-et-Loir, are themselves infected with the *bacillus anthracis* mixed with their food. But where would the germinal corpuscles come from?

Pasteur discovered that their origin was in the cadavers of animals dead from anthrax and buried in the soil. Davaine and Colin had remarked that bacteria are destroyed by putrefaction, but their germinal corpuscles, according to Pasteur, resist that

* Revue Médicale Franç. et Etrangère, July 31st.

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influence, and these on being carried to a favorable medium pass from a latent to an active life and become bacteria.

After digging some earth from the bottom of pits in which cattle dead from anthrax had been buried two years previously, Pasteur found germinal corpuscles in it, and succeeded in inoculating and killing animals with anthrax.

The manner in which anthrax germs come to the surface is explained thus: It is shown that earthworms, after feeding on the corrupted dirt come to the surface where they deposit their excrement which contains a large number of germinal corpuscles. These, after drying are blown by the wind in all directions, on plants, flowers and on the abrasions common on the skin of cattle.

Says Pasteur: "The results suggest the possible influence of soils in the etiology of disease, the danger which may result from graveyards, the usefulness of cremation!"

The experiments lately reported to the Institute, by Dr. Poincaré, substantiate the researches of Pasteur.

Nineteen cattle having died of anthrax, on a farm in the vicinity of Nancy, Mr. Tisserand, a veterinary surgeon, thought the cause of that local epizootic should be referred to a stream of muddy water flowing through the pasture. Dr. Poincaré demonstrated the presence of bacteria in the blood of the diseased animals, and in water from the stream; and he injected some of the water into an animal which soon died with characteristic symptoms of anthrax.

Some time ago, Dr. Chauveau communicated to the Institute the results of experiments which he made in Algeria, with an aim at determining the nature of the immunity of Algerian sheep from anthrax.

These were his conclusions:

"All the sheep indigenous to Algeria enjoy in a lesser or greater degree an immunity from splenic fever, and can impart this immunity to European sheep by crossing. That immunity is congenital and natural. French sheep, breeding in Algeria, do not acquire it, but it is not proven that Algerian sheep, breeding in France, may not lose it. Hence we are not allowed to deny some influence to the Algerian medium, at least in what pertains

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to the preservation of that immunity which Algerian sheep possess."

An eminent experimenter, Prof. Toussaint (of Toulouse), has just brought to the notice of the Institute facts of great interest. He has ascertained, as a first step, that bacteria, even in the animals in which anthrax is most apt to occur, do not reach their maturity in the body where they are first received and which they destroy; they never produce germinal corpuscles in it, but multiply through a division of the mycelium. Furthermore, he has ascertained that some animals, as the swine, never take anthrax, although their conditions of life resemble very much those of other species attacked most readily. He also noticed that some animals easily catch anthrax in their youth, and lose that predisposition in adult life and old age, e. g., the dog, the horse, the ass and others.

These facts led Toussaint to inquire into the conditions which render an organism proof against the action of bacteria. His manner of proceeding consists in depriving the blood of animals sick with anthrax of its bacteria through filtering, in raising its temperature to F. 130°, and inoculating it in the groin and the neck in the neighborhood of lymphatics. The result of the inoculation is slightly manifested locally, and the blood is modified and becomes proof against the growth of the *bacillus anthracis*.

The following are his conclusions:

1. The blood of animals suffering from anthrax, divested of its bacteria, does not communicate that disease, but an affection *sui generis* which imparts to the organism an immunity against anthrax.

2. The germinal corpuscles, whose office is so important according to Pasteur, do not exist any longer in the blood after filtering.

3. An infectious liquid may produce a pathological change, although deprived of bacteria and germinal corpuscles.

4. The lymphatics have a necessary office in the production of infection, as previously proven by Cohn.

Here is an extract and translation from another important paper presented to the French Institute by Dr. M. P. Miquel,*

*Revue Méd. Franç. et Etrang, July 24th.

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stating some of the laws which govern the spread of the germinal corpuscles of bacteria:

"Through processes of breeding, the details of which are too full to state here, I have succeeded in securing and enumerating the germs of bacteria, and could ascertain that, although these germs are always present in the atmosphere, as results from the experiments of Pasteur, their number depends on incessant variations.

"Accordingly, *the number of atmospherical bacteria, very small in winter, increases in the spring, reaches its height during summer and the first part of autumn, and rapidly diminishes during frost;* the same law can be applied to the sporules of fungi, but, while these are numerous during damp weather, the quantity of bacteria is at the same time diminished, and rises again when the soil becomes dry; precisely during the time when the sporules of fungi become rare.

"Until we are able to prepare a liquid in which the germs of all sorts of bacteria can grow equally well, it will be difficult to know the exact number of bacteria contained in a given volume of air. On experimenting with neutral broth, totally deprived of organisms, it results that the average number of bacteria living in a cubic meter of air, does not exceed 200; this would lead us to believe that the atmosphere contains 100 times more sporules than bacteria. But unluckily, experience proves every day that the medium of nutrition has a great influence over the growth of bacteria; here is an instance, the *bacillus ureæ*, a very active agent of ammoniacal fermentation, and an organism perfectly distinct from the *micrococcus* ferment of urea, studied by Pasteur and Van Tiegen, grows well in urine, and in liquids containing urea, but is unable to grow in neutral broth. However it may be, the last liquid is altogether a favorable medium for the growth of a great number of species, and gives results whose greatest merit is a comparative one.

"During summer and autumn, times happen when a thousand bacteria are found in a cubic meter of air at Montsouris, (Fe). In winter, this number often decreases to four or five, and days come when the dust contained in 200 liters of air is incapable of producing the infection of the liquids most easily affected.

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"Inside of buildings, mechanical agency, as currents of air, being excluded, it requires from 30 to 50 liters of air to determine some change in the liquids; in my laboratory, the dust of five liters of air usually alters neutral broth; in the sewers of Paris, the infection of the same liquid is produced by the germs held in a liter of air.

"These results are very different from those published by Tyndall, according to whom a few cubic centimeters of air would in most cases be sufficient to infect various infusions. The interest brought to bear on bacteria, the presumed cause of infectious diseases, has led me to compare the number of deaths, caused by that class of diseases in Paris, with that of the bacteria contained in the atmosphere during the corresponding period. From such a comparison, extending from December, 1879, to June, 1880, it results that *every increase in the bacteria of the air is followed eight days later by an increase in the deaths from contagious and epidemic diseases.*

"I will prove later that contrary to the opinion held by many authors, watery vapor arising from the soil, the rivers, and putrefying masses, is always pure, that the gases arising from buried cadavers, are always deprived of bacteria; that the foul air directed through putrefying meat, far from loading itself with bacteria, is entirely cleaned, provided the infectious and putrid filter remains as damp as the soil, 30 cm. beneath the surface.

"Before closing, I must grant that to this day, none of the numerous species of bacteria which I isolated and inoculated into living animals has given rise to any pathological process worthy to be mentioned."

These propositions would acquire a greater importance if the experimenter had been able to prove that all species of bacteria are subjected to the same laws of existence, but that is not at all probable. Applying to them the law of natural selection, we can easily infer that the growth of one kind of bacteria excludes to a great extent that of another. This is the more probable as statistics prove that an epidemic of one or two of the infectious diseases is generally accompanied by a diminution in other diseases belonging to the same class, in the same locality.

The promises of Dr. Miguel are very brilliant, and we may

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still expect better results in that branch of inquiry. The truth is that this subject is not by any means exhausted, and that the germ theory, like all scientific achievements, requires a great deal of material and skill for its construction.

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ARTICLE IV.

HYSTERICAL MUSCULAR CONTRACTIONS. By W. T. SPEAKER, M.D.

There is scarcely a muscle or group of muscles in the body which may not become the seat of muscular contraction; this fact has long been known to the profession, but resemblance to organic disease is such that physicians and surgeons are still deceived by its counterfeits. Hysterical conditions of the muscular coats of the intestines are of most frequent occurrence, in producing great pain and nervous disturbances. I have met several cases in my practice, of hysterical muscular contraction, which makes its appearance in the form of a tumor. The several which I have seen were in the flat muscles of the abdomen, and in either case they were not accompanied with pain. They had remained a considerable length of time without any treatment; no enlargement or diminution was observed, but under full doses of the bromides they rapidly disappeared.

Spasmodic stricture of the urethra, caused by intense emotional excitement and accompanied by various hysterical phenomena, is so commonly met with in ordinary practice that it scarcely escapes the attention of the physician or surgeon. The diagnosis of these cases is not very difficult to obtain, if close attention is paid to the clinical history of the patient. It will generally be found that there have been other indications of the hysterical conditions present; that these contractions have made their appearance at other times and, like "phantom tumors," have duly disappeared. One case which I have had under my care the last year, is that of a woman thirty-five years old, married, with two children. This lady has frequently called my attention to a

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tumor situated in the posterior part of the latissimus dorsi muscle. Several times I have noticed an intense contraction of the muscle, at other times none whatever. These contractions seem to be produced by a power of the will or from a diseased functional disorder of the brain. Another case is that of a girl thirteen years of age. When first called to see her, my observation was that it was a case of wry neck, but upon a close diagnosis I discovered an intense contraction of the right sterno-cleido-mastoid muscle, and the head was drawn violently in the direction opposite to that which had formerly existed. The affection had developed suddenly, so far as she knew, without obvious cause, and was unaccompanied with pain. Her general health up to this time had been good. The treatment consisted of plenty of fresh air, occasional drives, and cold baths. Medically the bromide of zinc proved efficient in relaxing the tension of the muscle. The formula was as follows: ℞. Zinci bromid. ʒij, aquæ dist. ʒij. M. S. Ten drops three times a day, increasing a drop at a dose for each day. I increased the dose until she was taking about forty drops three times a day.

Another case was that of a young married woman. I was called in early one morning and found her laboring with what she presumed to be a miscarriage. The symptoms, on entering the room, led me to think she was in the third stage of labor, with the pains coming on from five to ten minutes. Upon examination I did not observe any dilatation of the os uteri, nor the least contraction of the uterus, but severe contractions of the abdominal muscles. I watched the case closely for nearly an hour and left, fully convinced that it was purely hysterical. I gave full doses of bromide of potassium, and in less than twenty-four hours all symptoms had subsided, and there was no further trouble until confinement.

About one year ago I was invited to see a young lady sixteen years of age, in company with Dr. B., a neighboring physician, who informed me that the lady was suffering from an atrophy of the muscles of the right leg. She had been under treatment for about one year for this trouble, but without any perceptible improvement. There was a slight contraction of the flexors of the

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leg, and the atrophy gave the appearance of an enlargement of the knee-joint, which, however, I was confident did not exist. Although the patient declared that she could not straighten the limb, and that every effort to do so gave her great pain, I seized the leg with one hand and the thigh with the other and forcibly extended the knee-joint. There was no great degree of pain produced, and though the flexed position was again assumed, I was confident that by proper treatment the limb could be restored to its normal condition. Faradization was now applied for the benefit of the atrophied muscles; the joint was repeatedly flexed by passive motion, the muscles were kneaded for a half-hour morning and evening, and she was encouraged to use the member by walking on it and flexing it by voluntary power. She drove out every pleasant day in the pure air, and was allowed to participate in any light and enjoyable amusement. The free use of the bromide of sodium was given with the bitter tonics. These means were entirely successful, and a year has now passed and she is entirely free from any hysterical trouble whatever.

Hysteria in all its varied aspects is usually recognized without any difficulty. A few isolated symptoms of the disease will suffice to reveal its nature to the practiced eye. The object of this paper has been to call attention to a class of disorders liable to be mistaken for others of a more serious import, and to the fact that recovery is frequently the apparent result of emotional disturbance. Among the physical influences, those of a depressing nature have the most marked effect upon producing or developing this disease. Thus in the treatment if we can bring the mind to bear upon this disease, and produce a different degree of thought and feeling, a cure is often accomplished. Therefore it is easy to see why the great army of mesmerizers, magnetizers, magicians, spiritualist mediums and quacks produce such an influence upon their patients. It is generally implied that these phenomena are of merely a functional, subjective character, more or less dependent on the state of the mind, more especially the will, and that a change of the mental condition has been naturally followed by a change in the phenomena, although apparently physical. Such is the broad definition of the imagination, as it presents itself to the mind when employed in reference to medi-

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cal facts of every day occurrence. It matters little to the patient by what name the remedy is called, whether "imagination" or some of the "pathies" of the day; but to the philosophical practitioner it ought to matter a great deal; it ought to be a question of exceeding interest.

MOUNT MORRIS, ILL., Sept. 30, 1880.

PARIS HOSPITALS.—The Paris correspondent of the *Lancet* says: Now that public attention has been forcibly called to the insanitary condition of the town generally, it would be well if some influential organ would protest against the disgraceful condition of several of the Paris hospitals. The Hôpital Laennec, for instance, is very little better than a slaughter-house for incurables. The wards situated upon the ground-floor are especially badly kept. Odors which emanate from the closets, impregnate the atmosphere and culiminate in an almost insupportable stink. Close to the small dungeon which is used as a speculum-room, a few days since I noticed, with surprise, on the clothes of a woman some lively specimens of the *Cimex lectularius*, and on expressing my astonishment to one of the pupils he informed me that the insect has its habitat at Laennec. He furthermore volunteered the statement, which is probably strictly true, that a few months' residence at that institution is sufficient to tuberculize the strongest inmate.—*Louisville Medical News.*

PRESERVATION OF THE COLORS OF DRIED PLANTS.—M. Stoebzl states that this is most effectually done by passing the plant slowly through a solution of one part of salicylic acid in six hundred parts of alcohol, heated to boiling point in an evaporating vessel (*Journal de Pharmacie*). The superfluous liquid is then to be shaken off, and the plant placed between blotting-paper and pressed as usual. The blotting-paper must be frequently renewed, especially at first. Plants so treated dry rapidly, and preserve their natural colors more perfectly than under any other procedure.—*Louisville Medical News.*

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Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

ARTICLE V.

AURAL COMPLAINTS IN CONSEQUENCE OF MALARIA. A CASE OF PRIMARY POST AURAL ABSCESS WITHOUT IMPLICATION OF THE MIDDLE EAR. *Archives of Otology*, Vol. IX, No. 3, Sept. 1, 1880. BY F. C. HOTZ, M.D., Chicago.

Under the first of the above heads appears a brief summary of the literature of malaria in its relation to affections of the ear, supplemented by the narration of three well marked cases which had been patiently and persistently treated by topical measures without effect, but yielded readily and permanently to the administration of quinine. The first and third cases are so interesting that we deem a summary of them to be of great importance to the general practitioner. For the same reason we give also Dr. Hotz' general conclusions based upon those cases.

Lady, thirty-five years. Subject to chronic nasal catarrh and sore throat. March 1876, acute aggravation. Throat symptoms relieved by nitrate of silver. On the advice of some "good friend," cold water was drawn into the nose. Sharp and severe pains and fullness was immediately felt in right ear. Agonizing pains during night. Ear felt as if filled with water. Watch not heard at all. Shrapnell's membrane being distended, was punctured; leeches applied, but relief was only temporary.

April 4th, the day following, external meatus filled with pus; pain moderate in morning, became severe at night. Mastoid process was tender but devoid of redness or swelling. External meatus was so sensitive that the mere gentle injection of tepid

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water was exceedingly painful. Leeches, poultices, turpentine emulsion produced no benefit.

April 7th, four grains of quinine every two hours. Free from pain all night; no tenderness over mastoid process; injection of water gave no pain. April 15th, discharge ceased and perforation healed. Patient still complained of a little fullness, which was relieved by the air douche, and a continuation of small doses of quinine.

On the above case Dr. Hotz remarks: The inflammatory process so clearly started by the cold water could not be reduced by local treatment. Paracentesis of the drum-head added to the severity of inflammation. A remarkable disproportion existed between the subjective and objective symptoms.

The third case, male forty-eight years. Very annoying soreness about the left ear and left side of head, particularly in region of left parietal bone. Slight redness over mastoid region, no tenderness or swelling. Redness probably due to irritants used. Two swollen and tender glands in sub-auricular fossa. External meatus red and swollen so that inspection of membrana tympani was difficult. The membrane, however, was perforated, and the edges red and swollen. It had been of three weeks' standing, and the patient, according to his family physician, had had several attacks of syphilitic affections of the bones. Watch was not heard at all by left ear.

The result of treatment, extending over four weeks, Dr. Hotz sums up as follows: Constitutional treatment by iodide of potassium, ten grains three times a day, had accomplished nothing, and local remedies had shown a decidedly bad effect; the present state of ear about the same as before treatment.

Questioning the patient again for more light on the history of the case, Dr. Weber Liel's *otitis intermittens* revealed itself, with the general characteristic of malaria. April 8th, began taking twenty grains of quinine daily, and from that time the disorder began to disappear; and on April 20th head was free from pain, meatus of normal width, no discharge from ear, opening in drum-head closed; can hear the voice very well, and watch, when in contact.

The intolerance of the ear for local remedies together with the

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disproportion between the morbid changes in the ear and the degree and extent of the nervous symptoms, may be regarded as good evidence of the malarial character of the aural affection.

Under the second heading the following case, here briefly summarized, is detailed and discussed:

Carpenter, forty-five years. No previous history of ear trouble except defective hearing. Awoke in the night of January 15, 1878, with violent pain behind left ear; in the morning the left mastoid was swollen and tender. Blisters, leeches, poultices, produced no benefit, but relief from pain occurred with the appearance of pus in the external auditory canal. After two weeks the discharge stopped and pain returned; this alternation continued for six months, during which time the swelling gradually extended down the tissues of the neck. General health gave way, appetite and sleep forsook him, and his brain became so irritable that he could not read two lines without feeling dizzy and nauseated.

On July 24th, when Dr. Hotz saw him for the first time he was pale, emaciated, despondent. The integument of the left auricle and post aural region was deep red. Considerable swelling of post aural region, no tenderness. Swelling slight over mastoid region, but increased at the top of mastoid process, marked and fluctuating in sub-auricular fossa; upper end of sterno-cleido-mastoid muscle swollen, and head kept inclined to left shoulder, with face turned to right side. Change from this position and opening of the mouth was painful.

External auditory canal was neither red nor swollen, no perforation of membrane was found, but in the posterior wall at the juncture of the cartilaginous portions, was a small elevation with a minute opening at its vertex. A small probe introduced into this opening could not be advanced towards the middle ear or the mastoid cells, but passed readily toward the top of mastoid process; and on pressure in the sub-auricular fossa muco-purulent matter exuded. The hearing in both ears was almost equally defective.

The limited extent of the affection after so long a period—six months—the swelling of the upper end of sterno-cleido-mastoid muscle, the fistulous opening at the juncture of the cartilaginous

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with the bony part of external meatus with the fact that a probe could be passed in the direction of the mastoid process determined the diagnosis as subperiosteal abscess.

A deep incision, July 27, was made behind the ear from the line of the orifice of the external meatus to the insertion of sterno-cleido-mastoid muscle. No pus; periosteum and bone healthy, but on extending the incision one inch further down into the more swollen tissues of the sub-auricular region, a cavity was reached containing a large amount of muco-purulent secretion. This cavity was demonstrated to connect with the opening into the external meatus. The wound being cleaned and a drainage tube kept in it, all distressing symptoms soon disappeared. On September 8th, wound behind the ear was cicatrized. External auditory canal as normal as the other side.

ARTICLE VI.

I. A Case of Poisoning by Duboisia. II. A New Mydriatic—Homatropin. By E. L. HOLMES, of Chicago.

(Read before the West Chicago Medical Society.)

I. Mr. L. B., sixty-five years of age, in excellent health, a patient at the Illinois Charitable Eye and Ear Infirmary, during convalescence after Graefe's operation for cataract, was provided with a small bottle of sulphate of duboisia, gr. j to ℥ j, in place of sulphate of atropia, which caused considerable conjunctival inflammation.

On the 27th of April, about 9 o'clock in the evening, Mr. B. took by mistake a "teaspoonful" of the solution. It cannot be determined whether the teaspoon was quite full.

The patient at once informed other patients near him that he had taken the wrong solution, but concluded to await the result, before reporting to the nurse. In about ten minutes there was dryness of the throat, and in half an hour a peculiar sensation in the legs, then in the thighs, arms and other parts of the body, as if they were asleep. At the end of three-quarters of an hour or more, the patient could scarcely talk or stand. Strange to

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say, not till this time did it occur to the patient or those around him to call the nurse.

An active emetic was at once given with the apparent effect of entirely relieving the stomach of its contents. Without delirium the patient rapidly passed into a state of unconsciousness, and remained in this condition till about five o'clock in the morning. He complained for two days of muscular weakness in the legs and arms, and especially noted a peculiar jerking action of the muscles of the arm in extending the hand to grasp a glass or other object.

I saw the patient at midnight. He was lying quietly, breathing naturally, but in a stupor from which he could not be aroused. The face was not specially flushed, although the mouth and tongue were remarkably dry. Dr. B. W. Griffin, who had been with the patient two hours, informed me that the temperature, as determined by the thermometer, had been normal. The pulse varied from 108 to 112. Some time previous to this, before unconsciousness became quite complete, the patient made ineffectual efforts to sit up in bed. The pulse always fell to 80 when the patient was supported in a sitting posture, and increased in frequency again on reclining. No other symptoms were noticed.

About an ounce of brandy in water was administered in minute doses during the night. Morphine was not given as an antidote.

I have observed four cases of serious atropine poisoning, in all of which wild delirium was a very prominent symptom.

It is claimed as a chief advantage in the use of duboisia that it scarcely ever causes irritation of the conjunctiva and skin which not unfrequently attends the use of atropia. I have seen one case, however, in which duboisia produced these troublesome symptoms. This agent and its properties are now quite extensively described in the recent works on materia medica and therapeutics. I need not dwell on the subject here.

It may not be out of place, however, to state that Prof. Ladenburg, of Kiel, claimed, some time since, to have demonstrated that duboisin, hyoscyamin and daturin have the same chemical composition and properties. "From these investigations it appears that atropin and hyoscyamin are the only two mydriatic

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alkaloids. These two, although not identical, are isomeric in composition and otherwise very closely related."

II. Prof. Ladenburg has quite recently discovered a new mydriatic which he calls "homatropin."

Writers in different journals state that this substance is an active mydriatic and paralyzer of the accommodation, with the advantages that it does not irritate the conjunctiva and integument and is not very poisonous. Its effects subside in a few hours, while those of atropine continue ten or even fourteen days.

I have not had access to papers on the chemical properties of this new agent, but am indebted to Prof. W. S. Haines for this brief account of them. He states that Prof. Ladenburg has made a particular study of atropine and its derivatus. He has obtained several alkaloids from atropine, which he calls tropeines. Homatropine is prepared by the union of tropeine and amygdalic acid.

ARTICLE VII.

PROLAPSE OF THE BLADDER IN A CASE OF LABOR. By H. D. VALIN, M.D., Chicago. (Reported at a meeting of the West Chicago Medical Society, Oct. 25th.)

On October 23d, at 4 p.m., I was called to attend Mary B. in her seventh confinement. She was at the eighth month, and labor was brought on by over-work. A first examination revealed a pediculated tumor projecting between the labia and out of the vulva. The anterior wall of the vagina could be traced from the meatus urinarius around the tumor to the anterior lip of the os uteri, which could be easily reached, and was dragged downward and toward the symphysis pubis. A fold of the tumor pressed between the fingers was a few lines in thickness, being composed of the fundus of the bladder, and the anterior wall of the vagina, and could not be mistaken for the amniotic membranes.

The prolapsed bladder contained two or three ounces of urine which could be pressed back above the pubis, and which disappeared after micturition. This tumor after being nearly replaced carried the anterior lip of the os uteri about an inch higher up.

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This was dilated enough to admit the ends of two fingers, and remained so for five hours; there being no regular labor pains. She was then administered one drachm of fluid extract of ergot, and after an hour and a half, the uterus was contracting regularly and strongly. When the head passed the inferior strait, it pushed a fold of the bladder down between itself and the symphisis pubis, causing intense suffering to the mother. The head was small and soon escaped under the pubis, without any interference.

The mother had been subject to incontinence of urine for some months previous, and complained of unusual pain in the lumbar region during this labor which lasted seven hours.

Such cases are rare. Mme. Lachapelle mentions one, and Merriman reported one in which the bladder was punctured, but a slight degree of prolapse is said to be common in women who have borne large families.

Diagnosis. The anatomical attachment of the bladder, the thickness of its walls, the urine disappearing on micturition or catheterizing, and the ease in replacing that viscus, help the diagnosis. But it can not be mistaken for the bag of waters, particularly if the latter can be felt within the os uteri during a pain, which do not affect the bladder to any extent.

Treatment. Leishman recommends to evacuate the bladder, to replace the fundus, holding it in position until the head descends; this is obviously difficult. Cazeaux advises to hold the bladder in position with a catheter while the head is born; the catheter should be soft and flexible for fear of doing serious injury to the urethra.

800 S. HALSTED STREET.

The following lines are by Benserade, and thus rendered by Dr. Johnson:

In bed we laugh, in bed we cry;
And born in bed, in bed we die.
The near approach, a bed may show,
Of human bliss to human woe.

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Society Reports.

ARTICLE VIII.

MICHIGAN STATE BOARD OF HEALTH. Reported for THE CHICAGO MEDICAL JOURNAL AND EXAMINER.

The regular quarterly meeting of this board was held at its office in the State capitol at Lansing on Tuesday, October 12th, 1880. The following members were present during the meeting: Prof. E. A. Strong, of Grand Rapids; Hon. Le Roy Parker, of Flint; Rev. D. C. Jacokes, of Pontiac; H. F. Lyster, M.D., of Detroit; J. H. Kellogg, M D., of Battle Creek; and Henry B. Baker, M.D., secretary.

IMPURE WATER.

Dr. Kellogg reported the completion of his paper on contamination of water by decaying wood, and mentioned in that connection some observations of his in regard to ice being contaminated by decaying sawdust and other impurities. He showed the fallacy of the popular belief that ice freezes pure, and said that it incloses all organic impurities that float. He described a water-cooler which was designed to avoid contamination of the water by the ice, as would happen if the ice were placed directly in the water. A cylinder containing ice was placed in the center of the cooler allowing the water to come in contact with this cold cylinder without touching the ice. He also reported progress in studies relative to the work of the new committee to which he was appointed, "the relations of preventable sickness to taxation." Dr. Baker made a report of the

WORK IN THE SECRETARY'S OFFICE

during the past quarter, which showed the distribution of a large number of annual reports and other documents to officers of local

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boards of health and other persons. Heretofore documents have usually been sent to the county clerks for distribution to local officers, but having seen that it might be as difficult for some persons to get them from the county clerks' offices as from Lansing, the secretary sent a circular letter to presidents of villages, asking them whether they wished them sent to county clerks, or if they would pay the express charges if sent to them direct. Of 102 replies, seventy-three desired the packages sent direct, twenty-nine wished them sent to the county clerks, and of the latter, many now lived at or near county seats. Many of these officers expressed great interest in the information contained in the documents of the State board. From evidence collected at Lansing, it would seem that the documents issued by the State board of health are in greater demand than any State documents, with the exception of the reports of the State board of agriculture and State pomological society.

REGULATION OF MEDICAL PRACTICE.

The secretary stated that in response to communications relative to the proposed regulation of medical practice, he had prepared a paper and a form for a bill. He submitted an outline of it to the board. He had done this partly because he feared the State board of health would be made the examining board, and its usefulness for other important work impaired.

Later in the session Dr. Lyster spoke on the same subject, and the following resolutions were adopted by the board:

Resolved, That there should be required of all who are to begin the practice of medicine in this State an examination as to their qualifications.

Resolved, That such examinations by the State should be restricted to questions in demonstrable knowledge as distinguished from questions of mere opinion.

Resolved, That as a public health measure, a committee of three be appointed to prepare and report, at the next meeting of the board, a plan for furthering the objects stated in the preceding resolutions.

Drs. Lyster and Baker, and Rev. Dr. Jacokes, were appointed such committee.

THE ANNUAL REPORT OF THE SECRETARY

relative to property received and disposed of during the fiscal year ending September 30, 1880, showed the purchase and

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placing of meteorological instruments in different parts of the State, the addition of 414 books and pamphlets to the library of the board, the receipt of weekly and monthly mortality statements from the principal cities in the United States and some foreign countries, the distribution of similar information respecting Lansing and the State; the detailed expenditures of the office, which are classified as follows:

Expenses of members attending meetings, $205.65; instruments and books, $147.11; paper, stationery, etc., $192.51; postage for the office, $581.90; postage by members, $16.30; printing and binding, $389.27; secretary, $2,000; miscellaneous (which includes telegrams, express, freight, etc.), $120.39; making a total expenditure for the fiscal year of $3,653.13.

EXAMINATIONS IN SANITARY SCIENCE.

The secretary reported that Dr. M. Veenboer, of Grand Rapids, and Henry B. Baker, M.D., of Lansing, the applicants for examination in sanitary science by this board, July 14, both passed the examination, and the board had since voted to grant them certificates. It was voted to publish the questions asked these candidates, in the report of the board for 1880. The secretary reported that, in accordance with instructions from the board, he had prepared a list of books valuable for reference and study by candidates for the examinations in sanitary science, and it was voted to print the list in the annual report for 1880.

OZONE.

An interesting paper by J. Mulvany, M.D., of the British navy, giving the results of ozone observations conducted in various parts of the world, was presented, accepted with thanks, and ordered published in the annual report. The paper was read before the Meteorological Society, London, England, but not yet published.

REMOVAL OF A SMALL-POX CORPSE.

The secretary presented a letter describing the method of reinterment, under the direction of the health officer of Lansing, of the body of a person who had died of small-pox.

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SANITARY CONVENTIONS.

It was voted to hold two sanitary conventions for the reading of papers, discussion of sanitary topics, and the exhibition of sanitary appliances, during the coming winter. Rev. Dr. Jacokes and Dr. Baker were appointed a committee to receive invitations and make arrangements for the conventions. Persons desiring a convention at any place, may correspond with either member of the above committee.

Prof. Strong said the convention at Grand Rapids last winter had greatly stimulated public health work in that city.

The secretary presented an invitation to the international medical congress to be held in London, August, 1881.

Dr. Jacokes presented a drawing and description of plan for introducing fresh air to be warmed by a coal stove in the room.

The secretary was directed to investigate the hog cholera now prevailing in the southwestern part of this State, and find, if possible, any relation between that and any sickness in the human species.

Prof. Strong, the new member, was assigned to work on the committees on the "relations of schools to health," and on "the relations of climate to health."

Dr. Baker presented specimens of pine infected with a fungus which had completely destroyed the floors of several rooms, constructed of that wood, in a new building. The fungus seemed to grow most where the floor was covered, as with oil-cloth, or by boxes resting on the floor: and in one room the decayed floor corresponded with the portion not exposed to light, though that case may be explained by a greater amount of moisture in that part of the room, because of dampness underneath. The odor in the room was that mouldy or musty odor not infrequently met with in close rooms. It caused frontal headache, and a person engaged in repairing the floor had spells of sneezing on two occasions some months apart, while thus employed.

The secretary presented communications from E. P. Christian, M.D., of Wyandotte, relative to diphtheria, etc., and he was instructed to use them in the annual report.

A design for an official seal for the board was presented by Dr. Baker, and adopted.

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Dr. Henry B. Baker was appointed a delegate to the meeting of the American Public Health Association at New Orleans, in December.

Auditing of bills and other routine work was accomplished during the day. The next regular meeting of the board will be on January 11th, 1881.

AN ANECDOTE OF LATHAM.—Dr. George Johnson, F.R.S., Physician to and Professor of Clinical Medicine at King's College Hospital, in the *Medical Times and Gazette* of October 9th, tells the following: "The late Dr. Latham related the following anecdote to Sir Thomas Watson, from whom I heard it: Dr. Latham, as many of you are aware, was a very eminent, learned and accomplished physician of St. Bartholomew's Hospital, but he had published more on the diseases of the heart and lungs than upon any other subject. A patient of his who had recently recovered from some pulmonary affection, one day said to him, 'I feel that as regards my lungs I am quite well, and now I think of going to consult Dr. Watson about my general health.' To which Dr. Latham replied, 'Yes, I see; in your estimation Dr. Watson is an architect, and me, I suppose, you look upon as a bell-hanger.' "—*Louisville Medical News.*

SYMMETRICAL NEURALGIA IN DIABETES.—Dr. J. Worms read a paper on this subject before the Académie de Médecine, in which the following points are brought forward: 1. In a great proportion of cases of diabetes mellitus there exists a bilateral symmetrical neuralgia; 2. The dental and sciatic nerves seem to be the favorite points of attack; 3. Ordinary anti-neuralgics (quinine, morphine, the bromides, chloral, etc.) do not affect these neuralgias as they do others; 4. The neuralgia is very severe, and is increased or diminished in proportion as the glycosuria rises or falls.

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Domestic Correspondence.

ARTICLE IX.

BOSTON LETTER.

Messrs. Editors :—In looking over our city directory for 1880, I was surprised to find that three hundred and eighty-two members of the Massachusetts Medical Society practice medicine in the City of Boston alone. This of course includes the Charlestown, Roxbury and Dorchester districts, which are now a portion of the city. But since the Fellows of our State Society number only twelve or thirteen hundred, it will be seen that a large proportion of them are located within a comparatively small section of the whole State. It cannot be supposed that all of these are blessed with a remunerative practice. The directory contains the names of seventy Homœopaths, so called, six of whom are women. There are also fourteen Eclectics; six names under the auspices of the United States Medical Society of Massachusetts; twenty-seven members of the "New England Medical Society of Specialists;" twelve members of the New England Hospital Society, all of whom are women who, I believe, are regular in their practice; one hundred and fifteen female practioners who are not included under any organization, and who practice all sorts of 'isms and 'pathies, from hair-dressing to midwifery, and finally I find a list of doctors headed "Other Physicians" of whom there seem to be two hundred and fifty-four. "Other physicians" is an awkward squad, to be a member of which is not a specially high honor. Some of these left-handed lights of medicine indicate their curious forms of practice by names which are as puzzling as Barnum's "What is it?" but partake far more of the *genus* humbug. One fellow's practice is "analytical,"

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another's "anatomical," that of a third "naturepathic," of a fourth "psycopathic." There are also "bonesetters," "magnetics," "electrics," "botanics," many of whom no doubt flourish upon that singular credulity which from time unknown has been a characteristic of the common people. Several of these men are Buchananites, their names having been published in the list of the graduates of the Buchanan mills at Philadelphia. It is a question whether, in the absence of State medical laws, these scamps should be posted in their several localities. This would merely advertise them without accomplishing anything in behalf of their victims. Among "other physicians" too, I am sorry to say, are men who are advertising abortionists, and belong to that class who make pitiable dupes of the weak and erring of both sexes. Why they are allowed to pursue their nefarious trade and advertise beside, may perhaps be explained by the frank confession of a man who quietly follows gambling as a business. He said to an acquaintance of mine that so long as he paid a certain yearly amount to the police of his district, he was not troubled, and that he considered the police tax a legitimate (?) item in his expenses. It is more than probable that abortionists protect themselves in a similar manner. At any rate it is a well-known difficulty to find proof against them. The mortifying fact is made evident by this classification, that in Boston out of nearly nine hundred individuals who are called doctors, less than four hundred are regular. If we ever push through the legislature of Massachusetts a law regulating the practice of medicine it will be doubtful as to how successful it can be made. At any rate I suppose no law can prevent the employment of quacks by the laity if the latter prefer quacks to educated men.

Just as business houses of a similar kind cluster together in the same street, so in Boston do physicians live in groups. On two of our principal streets if a person were to call out "doctor" at midnight, the result would probably exceed that accomplished by the cross-eyed schoolmaster, who said, "The boy I am looking at will please stand." Twenty-nine boys rose to their feet. For, in one of these streets, within one and a half blocks, live about sixty physicians.

At a recent meeting of the councilors of our State Society, the

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proposition was made that the president should be requested to appoint a committee to consider the necessity of a law for the protection of the insane during the interval between the signing of the certificate of lunacy by the medical men and the indorsement of the same by the magistrate. It often occurs that the judge is not at hand after the certificate of lunacy has been signed by the physicians. It may be Saturday p. m. This makes the matter worse, for an unfortunate who should be taken directly to the asylum is left in the hands of the police who can do nothing more than confine the patient in the dreary cell of jail or lock-up, and who, in their ignorance of the needs of the case, are just as apt to handle a violent lunatic roughly as they are to abuse an excited inebriate. The effect upon the insane of such confinement and such treatment even for the short space of time between Saturday evening and Monday morning, might work years of harm and perhaps render an acute case incurable. If no police were at hand it might be excessively dangerous to the patient as well as to his friends to leave him in their care or in that of any persons who do no not know the proper manner of controlling a lunatic. Indeed much more might be said to prove the great need of a law for the protection of the insane during this transition period. The report of the committee appointed to consider this matter will not be made until the February meeting of the Councilors. But there can be but one result, and it seems singular that the importance of this necessity has not long ago been urged upon our law-makers by specialists. As it is, the proposition came from a branch of the State Society.

The next annual meeting of the Massachusetts Medical Society will be one of unusual interest, from the fact that it will be the centennial gathering of its Fellows. The exercises, of course, will have a special meaning, and there will be a decided departure from the ordinary programme. It is the intention of the president-elect to arrange a steamboat excursion among the islands of Boston harbor, or some other means of giving unusual entertainment to the members of the Society. The annual dinner will be followed by toasts and speeches which will have a most entertaining historical character. In more ways than one the remarkably harmonious and earnest spirit of the meetings and

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proceedings of the society for one hundred years will be prominently brought to the minds of the Fellows. This body most certainly has had a remarkable history. Probably no similar society in our country holds a higher place in the respect of the laity and its influence has ever been useful and ennobling. Many of its earlier members were men who wrought untold and enduring good in placing the profession of medicine on the elevated plane which it now occupies in the United States. The influence of their writings as well as their noble manhood was felt not only in Massachusetts, but throughout the country. Their memory is very dear to the society.

BOSTON, Oct. 16, 1880. H. O.

ON THE TREATMENT OF JAUNDICE WITH LARGE DOSES OF IPECAC.—Dr. Henry Cook, of Bombay, India, writes a suggestive article in the *Practitioner*, on the above subject. Jaundice he divides as usual into the hepatogenous, and hæmatogenous. The more frequent cause of the former variety is, of course, a catarrh of the gall ducts; but, in addition there is often a form of hepatogenous jaundice, in India, at least, which comes on gradually, and is probably due to an obstruction or lesion of some kind in the minuter divisions of the hepatic duct.

Hæmatogenous jaundice, in India, is oftenest due to malarial fevers. Now, in jaundice due to any of these causes, but especially in the second form, he has found large doses of ipecac to act better than anything else. In one case he gave on the first day forty-five grains. Improvement began on the day following. On the third day he gave a dose of thirty grains, and two days later, another dose of twenty grains.

Improvement was steadily going on. In other cases two doses were sufficient to restore the normal action of the liver. Dr. Cook relates one case of hæmatogenous jaundice due to malarial fever, in which the large doses of ipecac apparently acted well.—*N. Y. Medical Record.*

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Reviews and Book Notices.

ARTICLE X.—A CONTRIBUTION TO A KNOWLEDGE OF FRACTURE OF THE RIM OF THE ACETABULUM, BASED ON THE REPORTS OF TWENTY-SEVEN CASES AND EXPERIMENTS ON THE CADAVER. By N. Senn, M.D., Milwaukee.

This is a pamphlet of thirty pages, neatly reprinted from the Transactions of the State Medical Society of Wisconsin.

The author of this paper, which was read to the Wisconsin State Medical Society, commences with the following proposition: "Fracture of the rim of the acetabulum is an extremely rare accident, being less frequent than fractures involving the floor of the acetabulum."

After giving a concise and interesting description of the anatomy of the acetabulum, he details seven experiments on five different cadavers, instituted for the purpose of determining the effect of blows applied either to the knee or foot, with the limb in such direction that the force of the blow would be sustained by some part of the rim of the acetabulum. Concerning the results of these experiments, Dr. Senn remarks: "These experiments demonstrate how difficult it is to fracture the rim of the acetabulum, and they tend to corroborate the views of the majority of surgeons, who consider this injury one of the rarest accidents in surgery. They are also instructive in showing where bones are most likely to break, when a sufficient amount of violence is brought to bear upon certain parts of the skeleton. Thus, although in every experiment the limb was placed in the most favorable position, and the force applied in such a manner as to expend itself on the inner surface of the acetabulum, fracture of the rim was produced only once, and then by forcibly

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rotating the femur inwards, and by applying the force to the posterior margin of the trochanter." By a commendable degree of research through surgical literature, from the days of Sir Astley Cooper to the present time, the author collates the history of twenty-six cases of this variety of fracture, to which he adds an interesting one occurring in his own practice. After discussing the causes, symptoms and diagnosis of this rare variety of fracture, giving special attention to the differential diagnosis between it and fracture of the neck of the femur without impaction, he says: "Crepitus and a tendency to reluxation are the symptoms on which we place most reliance to differentiate this fracture from simple dislocation.. The akystopeurastic of Middeldorpf may be of great service to determine the existence of fracture of the rim. After reduction has been accomplished, a long, stout needle is passed through the tissue to the supposed seat of fracture. By lateral movements of its point, the defect in the margin, as well as the roughness of its surface, is ascertained. An effort should now be made to fix the detached fragment with the point of the needle, and, by rubbing it over the broken margin, a rough crepitus is elicited."

In regard to the prognosis, Dr. Senn says:

"The prognosis must have reference to the preservation of life and the restoration of the utility of the limb. All of the old authors regarded fracture of the pelvic bones as a grave lesion, almost necessarily leading to a fatal termination. I believe with Dr. E. Andrews, that all uncomplicated fractures of these bones tend to recovery, and that death is attributable in most instances to a lesion of some important pelvic or abdominal viscera. In twenty-three cases where the result is noted in this regard, thirteen recovered, and ten died. The prognosis is less favorable if the floor of the autobulum is also implicated in the fracture. Of four cases of this sort, only one recovered. In nine cases out of the thirteen that recovered, the limb remained in place after reduction, and the recovery was complete. In four cases redislocation took place, the limb assuming the same malposition as after simple, unreduced dislocation of the femur."

The whole paper is worthy of careful perusal, and does credit

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to its industrious author. We quote what he says concerning the *treatment* of fractures of the acetabulum entire, as follows:

TREATMENT.

The indications to be fulfilled in the treatment of this class of injuries are: 1st. To reduce the dislocation; 2. To retain the head of the femur in the socket until union has taken place between the fragments.

The dislocation may be reduced by manipulation or by extension; in both instances flexion constitutes an important step in the operation. Bigelow says:* "These displacements, especially the displacement backwards, demand the usual attempts at reduction by flexion. Although the bone inclines to slip from the socket, it can be retained there, in cases of a sort heretofore considered difficult of treatment, by angular extension, with an angular splint attached to the ceiling, or some other point above the patient; or if any maneuver has reduced the bone, the limb should be retained, if possible, in the attitude which completed the maneuver."

In seventeen of the cases reported, the manner of reduction is specified as follows: By extension, eleven—in most of these cases extension and flexion were combined; by manipulation, two; by manipulation and extension, one; by manipulation over Sutton's fulcrum, one; by extension with pulley, two. In all but one of the cases the displacement was corrected without difficulty. In Pooley's case it was supposed that the detached fragment prevented reduction by being placed between the head of the femur and the acetabulum. In my own case, the use of the pulley was required from the length of time that had elapsed since the injury had been received. Had I been aware of the nature of the injury, no attempt would have been made to reduce the dislocation, as a restoration of the actabulum could not be hoped for after such a long lapse of time since the injury was sustained. Permanent extension was applied more for the purpose of determining a favorable locality for the formation of a new joint, than with a view of retaining the head of the bone in its socket.

* Dislocation hip joint.

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As in most instances a diagnosis cannot be made before reduction has been accomplished, surgeons will resort to their favorite methods of reduction. Should the nature of the lesion be determined beforehand, traction in the direction of the broken edge of the rim, and rotation of the limb inwards, will readily restore the normal relation of the parts. As we possess no direct measures of keeping the fractured surfaces in apposition, all our efforts must be directed toward preventing reluxation, by appropriate position and fixation of the limb and pelvis.

The depth and extent of the fractured margin, as well as the location of the fracture, will determine the difficulty in retaining the head of the femur in its normal position. If sufficient depth of the upper portion of the rim is left to serve as a support to the head of the bone, all that is necessary is to dress the thigh in the abducted position, so as to press the head of the femur against the floor of the acetabulum. As the contusions of the soft parts about the hips and pelvis are severe, a plaster-of-Paris splint cannot be applied as a primary dressing. The healthy limb and pelvis should always be included in the retentive dressing.

"Bonnet's wire breeches, Dzondi-Hagedorn's apparatus, or Hamilton's splint, as advised by him in the treatment of fractures of the femur in children, will be found sufficient to maintain retention.

"After the swelling in the soft parts has subsided, nothing more perfect could be devised than a plaster-of-Paris dressing, including both limbs and the pelvis.

"When nearly the entire depth of the upper or posterior portion of the rim has been detached, muscular contraction must be counteracted by permanent extension with the weight and pulley, and immobility of the joint secured by appropriate splints. In cases of this sort, angular extension with an angular splint, as advised by Bigelow, will answer an admirable purpose. The unbroken part of the rim should be made the support for the head of the femur whenever practicable, as when the posterior part of the rim is fractured, the thigh should be dressed in the position of hyper-extension, a broad, firm, pelvic band, with a compress above the trochanter, will aid in keeping the bone in

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place, in approximating the fractured surfaces, and in preventing muscular spasms.

"The treatment should be continued for a sufficient length of time to secure a firm union of the detached fragment with the broken rim, which, as in other fractures, generally requires from four to six weeks. The patient must be directed to exercise great care in the use of the limb for a considerable length of time after all dressings have been removed, so as to obviate any undue pressure against the recently repaired rim of the acetabulum.

ARTICLE XI.—THE HYPODERMIC INJECTION OF MORPHINE; ITS HISTORY, ADVANTAGES AND DANGERS. By H. H. Kane, M.D., New York. Published by Chas. L. Bermingham & Co. 1880.

In 1878 Dr. Kane commenced a careful study of his subject, and by personal inquiry, letters, and articles in journals, throughout this country, Great Britain, France and Germany, gathered a vast amount of material. From this large mass of information he has written a most valuable book of three hundred and fifty pages. Especially valuable will it be to the people of our country, if will serve as a note of warning to those who indirectly, although innocently in many cases; are the cause of this habit. From the facts set forth in chapters one and two, the author thinks he is justified in drawing the following conclusions: That localization of the injection is not necessary, and sometimes mischievous, save in certain cases, that rapidity of absorption varies in different individuals, and in the same individual at different times; that hypodermic injections blunt sensibility sufficiently to admit of the performance of minor surgical operations without the use of an anæsthetic; that abscesses are comparatively rare; that to acid solutions, unclean syringes, rusty or dirty needles and solutions which have stood for some time unprotected by salicylic acid, carbolic acid or some such drug, are the causes which produce erysipelas, pyæmia and certain other accidents which follow the hypodermic procedure.

In chapter three, in which is discussed the commencing and the usual dose—idiosyncrasy, narcotism and elimination of morphia by the kidneys, certain experiments are cited which seem to

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demonstrate the fact that in dogs and rabbits, at least, interference with the renal function renders doses of morphine fatal that would otherwise cause only a stupor of some hours duration.

Among the causes which produce certain alarming symptoms, following immediately upon the injection subcutaneously of morphia, Dr. Kane speaks of *injection into a vein*, *alarming syncope* and *rapid absorption*. In the treatment of the last named accident he recommends very highly the tourniquet, or more properly a strap armed with a patent buckle. At the first intimation of danger after a hypodermic injection this should be applied above the puncture in the arm, and should be pulled tight and kept so for several hours. This being loosened gradually, but a small amount of the drug is permitted to enter the general circulation until danger is passed.

The author, in a chapter devoted to the subject, speaks at length of the treatment of opium narcosis. He tabulates all the remedies usually found of benefit in these cases as follows:

To aid to establish respiration.

To stimulate the heart.

To produce general stimulation.

To counteract soporific effects.

To produce diuresis.

He believes opium and belladonna mutually antidotal in certain particulars only, and cites the experiments and conclusions of many well known writers upon the subject. The value of coffee, or its active principle, is also discussed.

The question of using morphia with atropia is discussed in chapter 8. The conclusions of Bartholow, who has studied their physiological action very closely, are given, with our author's deductions, who says, in closing, "that there is considerable room for exact clinical inquiry as to the advantage of combining the two drugs for hypodermic use."

The dangers peculiar to, and treatment of the opium habit are discussed, and with the conclusions, end the book. In view of the rapid increase in the importation and sale of opium, the reckless prescribing of some of our profession, and the sad and terrible effects seen in scores of opium habituates, we regard the publication of this book as particularly opportune. While the writer

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of this brief review believes that the author rather overestimates the frequency of the use of the hypodermic syringe, his observation and experience fully confirm Dr. Kane's conclusions in regard to the baneful use of the different preparations of the day, and from recent investigations I am fully convinced that it is from our profession that the first dose is received. As a profession we are, I am afraid, careless in prescribing this drug, and unmindful of the best interests of our patients when we permit them to continue the use of a remedy which may produce such physical and moral disaster.

ARTICLE XII.—MINOR GYNÆCOLOGICAL OPERATIONS AND APPLIANCES; FOR THE USE OF STUDENTS. By J. Halliday Croom, M.B., M.R.C.P.E., F.R.C.S.E., Lecturer on Midwifery and the Diseases of Women at the School of Medicine; Physician Royal Maternity Hospital; late Tutor to the Midwifery Class, University, Edinburgh. E. & S. Livingstone, 57 South Bridge, Edinburgh; 1879.

If this book had been written for the use of practitioners, instead of for students, little harm would have been done. But as it is intended "for the use of students," there is a probability that under-graduates will get a wrong impression of gynæcology from a perusal of its pages. To a physician of experience, this book may be of some benefit, in that it will serve to freshen the memory on some forgotten points, but it will not give any great amount of knowledge on any subject which it treats.

A medical student ought not to read such a book as this, at least not until he has read several works on gynæcology which treat the subject exhaustively; for, if he gets his first ideas of the diagnosis and treatment of the diseases of women from a work of this scope, he will be apt to have a very superficial knowledge of the subject.

The book contains ten chapters, each one upon a very important subject; and yet the entire work contains but 102 pages, 12mo.

Had the author devoted all this space to the consideration of some one of the ten chapters, as "Cervical Applications," or "The use of the Sound," he would have given to the medical

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profession something of real benefit. As it is, the book is of very little value. "Hand-books" and "Manuals" of medicine and surgery are altogether too plentiful. Their tendency is towards superficial rather than thorough education.

Every physician who writes a monograph upon any topic, and embodies in his paper all that is known in regard to the subject he discusses; who, in other words, gives all the details as well as the main facts in the case, puts something into the hands of his readers that it is worth the having. It is comparatively an easy task to write a "hand-book," while to become the author of an exhaustive monograph, involves a great deal of study and research. B. W. G.

ARTICLE XIII.—ON REST AND PAIN. A Course of Lectures on the Employment of Mechanical and Physiological Rest in the Treatment of Accidents and Surgical Diseases, and the Diagnostic Value of Pain. By John Hilton, F.R.S., F.R.C.S., Professor of Anatomy and Surgery, etc., etc.

This book is already so well known to professional readers as to need little comment. It consists of a series of lectures in which Mr. Hilton shows how largely professional success in surgery is due to the recuperative powers of nature, especially when helped by the suggestions of the thoughtful surgeon, and that growth and repair bear an exact relation to physiological rest, local and general. Much consideration is given to pain, local, peripheral, sympathetic; numerous cuts show the peripheral distribution of the nerves of sensation. The work is of interest to the advanced student as well as the busy practitioner. It is the first of Wm. Wood & Co.'s phenomenally cheap library of standard medical authors.

ARTICLE XIV.—A TREATISE ON COMMON FORMS OF FUNCTIONAL NERVOUS DISEASES. By L. Patzil, M.D.

This author characterizes those diseases as functional, in which pathological anatomists can find no centric cause, and in which the changes are of a molecular nature. He considers that due attention is not paid to these affections in English text books devoted to nervous diseases, though practically he considers them

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more important by far than diseases of organic lesion and much more frequently encountered.

He takes up in successive detail, chorea, epilepsy and neuralgia in its various localities, omitting consideration of hysteria as already sufficiently described in works before the public. The remaining 186 pages are given to peripheral paralysis; some of the forms given, however, are not considered strictly functional, but are added for the sake of completeness of the subject in every detail. The subject is fully discussed in etiology and treatment, and well illustrated by cuts giving the nervous peripheral distribution and the motor points of muscles.

The work is interesting and clear in style, and is the fifth of William Wood's series for 1880. D.

ARTICLE XV.—A TREATISE ON THE DISEASES OF THE EYE. By J. Soelberg Wills, F.R.C.S., Director of Medicine of the University of Edinburgh; Professor of Ophthalmology in King's College, London; Ophthalmic Surgeon to King's College Hospital; and Surgeon to the Royal London Ophthalmic Hospital. Third American edition, from the third English edition, with copious additions by Charles Stedman Bull, A.M., M.D., Surgeon and Pathologist to the New York Eye and Ear Infirmary; Lecturer on Ophthalmology in the Bellevue Hospital Medical College. Philadelphia: Henry C. Lea's Son & Co.; 1880.

It is scarcely necessary to do more than inform the readers of the JOURNAL AND EXAMINER that a new edition of this work has just appeared.

The facts that the original work met "with so very favorable a reception both by the profession at large and by the British and foreign medical press, and especially that it should have been deemed worthy of being translated into French and German," are indicative of its great merit.

The annotations of the editor, Dr. Bull, place before the student an excellent synopsis of the advances which have been made in ophthalmology during the past few years.

The treatise is illustrated with a large number of cuts, and is printed with clear type on good paper. E. L. H.

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ARTICLE XVI.—NASO-PHARYNGEAL CATARRH. By Martin F. Coombs, M.D., Professor of Physiology, Opthalmology and Otology, in the Kentucky School of Medicine, etc., etc.

There is nothing very new in this work. As the author states in his preface, he may have satisfied the demands of a few friends who urged him to the task, and yet fallen far short of the requirements of a large class of practitioners. Though there is an interesting chapter on Infusorial Catarrh, the rest of the cases detailed, results of treatment, cuts of instruments used, etc., are such as are familiar to every practitioner.

BOOKS AND PAMPHLETS RECEIVED.

BOOKS.

Treatise on Therapeutics. By Trousseau & Pidoux. Translated by Dr. D. T. Lincoln. Vol. I. New York: Wm. Woods & Co. 1880.

The Art of Prolonging Life. By C. W. Hufeland.

What to Do First in Accidents or Poisoning. By C. W. Dulles, M.D.

Lessons in Laryngoscopy, and Rhinoscopy, and the Diagnosis and Treatment of Throat Diseases. By Prosser James, M.D.

A Treatise on the Practice of Medicine. By Roberts Bartholow, M.D. Pp. 853, cloth. New York: D. Appleton & Co.; 1880.

On the Bile, Jaundice and Bilious Diseases. By J. Wickham Legg.

A Treatise on the Diseases of the Eye. By J. Soelberg Wells, M.D. Philadelphia: A. C. Lea's Son & Co.; 1880.

PAMPHLETS.

Eighth Annual Report Michigan State Board of Health; 1880.

Twenty-third Annual Report Missouri Medical Association; 1880.

National Association for Protection of Insane, and Prevention of Insanity

Transactions Southern Illinois Medical Association for 1880; Vol. II.

Transactions California Medical Society for 1878–79–80.

Indications for Treatment in Fractures at Elbow. By L. S. Pilcher, M.D.

A Contribution to Pathological Histology of Acute Parotitis. By E. Croendt, M.D.

Transactions Kansas State Medical Society for 1880.

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Rise of American Dermatology. By L. A. Duhring, M.D. New York: A. G. Sherwood & Co. 1880.

Contribution to Knowledge of Fracture of Rim of Acetabulum; twenty-seven cases. By N. Senn, M.D. 1880.

Practical Suggestions in Treatment of Diphtheria. By R. J. Nunn, M.D., Savannah, Georgia.

Presentation of the Funis, with notes of ten cases. By J. G. Meachem, Jr., M.D., of Racine, Wisconsin.

Hernia in Children; based on a study of 500 cases. By Edw. Swasey, M.D.

Transactions Georgia Medical Association for 1880.

THE DIABETOMETER. — A method for the accurate and easy estimation of the quantity of sugar contained in a given quantity of diabetic urine is very desirable. M. Yvon in the *Bulletin Générale de Thérapeutique*, for July 16, figures and describes an instrument which seems to fulfill all the indications, and if accurate, should prove a boon to the practical physician, and should certainly find a place in all large hospitals. It consists essentially of a glass tube, intended to hold the urine to be used, and which is supported horizontally on a stand. In the end of this nearest the source of light are placed, first, a reservoir for bicarbonate of potassium, then a polarizer. At the other end of the glass tube is a Nichols prism, and then a pair of lenses to focus its ray of light on the eye. The Nichols prism is made to rotate by means of a milled head, graduated so as to express the richness of sugar in grams to the liter of urine.—*Phila. Med. Times.*

CHARMS.—Stones were up to a recent period of civilization used as amulets, charms, tests and cures in both mental and bodily ailments. The blood-stone was used to stop blood running from wounds; the jacinth for driving away fever and dropsy; the moonstone was venerated from its supposed lunar attraction; coral kept off the evil eye; amber was the amulet against insanity, and also cured the ague. But the list is too long for our space. See Rymer, "Fœdera," Vol. I., page 139. —*Medical Times and Gazette.*

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Editorial.

THE AMERICAN MEDICAL COLLEGE ASSOCIATION.

In commenting on the position and progress of the above named association, in the JOURNAL AND EXAMINER for October, we alluded to the withdrawal of two of the colleges in New York City, and some reasons assigned for such a course in an editorial article in the *Medical Record* of that city.

The article to which we allude in the *Medical Record*, and from which we quoted freely in our previous number, without directly asserting it, fairly conveyed the inference that the large colleges in the great Eastern cities had either withdrawn from, or refused to co-operate with the College Association for the reason that it "can do *them* no good, and that they do not have faith in the possibility of securing any great reforms in medical education through its influence." The "great reforms" alluded to by the *Record* were, "raising the lecture fees" and "the insisting that a medical college should furnish a certain amount of *clinical* instruction;" and the impression left upon the mind of the reader was, that the colleges in the great Eastern cities had withdrawn or kept aloof from the College Association because a majority of its members being the smaller colleges, "scattered throughout the West and South," it could not possibly adopt these measures of reform without a "fatal loss of membership." In our previous article we showed the fallacy of this pretext, so far as related to the raising of fees, by stating the *fact* that all the important medical colleges in the West (except two State institutions) whose fees were inordinately low, had actually raised them to $75. In regard to the other "great reform," which is a very desirable one, namely, "the insisting that a medical college

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should furnish a certain amount of *clinical* instruction," we are prepared to show, first, that the colleges in the great Eastern cities have neither insisted that their own students should attend any amount of clinical instruction as a condition for graduation, nor ever asked that the College Association should establish such a rule, and second, that the leading colleges in the West and Southwest are now, and have been, for twenty-five years past, holding a position in regard to clinical instruction in advance of that held by the colleges in the great Eastern cities.

While the annual announcements of the medical colleges in Philadelphia, New York and Boston set forth very prominently the facilities for clinical instruction in the hospitals and dispensaries of those cities, we have failed to find a single one that makes actual *attendance* on such instruction one of the conditions for graduation; and some of them take pains to state positively that such attendance is *not* obligatory. On the other hand, so early as the autumn of 1850, the Rush Medical College of Chicago made attendance on hospital clinical instruction during at least one full college term, one of the requirements for graduation. The Chicago Medical College, now the Medical Department of the Northwestern University, organized in 1859, adopted the same requirement and has enforced it during the whole period of its history. At present, the same requirement is enforced by the Detroit Medical College, the Medical Department of the University of Louisville, and several other schools in the Western cities. Not only have many of the leading medical colleges in the West made attendance on hospital clinical instruction a condition for graduation, but they have more perfectly systematized that important department with a view to having every senior student personally trained in the examination of patients, the handling of instruments for aiding in the diagnosis of diseases, as well as in noting the effects of treatment.

For instance, the Chicago Medical College regularly divides her whole clinical class, composed of the second and third year students, into sub-classes of six students each; and six of these small classes are regularly assigned to as many special departments, among which are the departments of gynæcology, diseases of the eye and ear, diseases of the chest and air passages, dis-

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eases of the nervous system, diseases of children, dermatology, etc., in which they are instructed one hour each day for one week, while the remainder of the class are attending the daily general clinics. The next week they fall back into the general clinics and another six of the small classes take their places. This full and carefully matured system of daily clinical instruction has been an essential part of the curriculum of instruction in this college for more than a decade of years. It will be seen by the announcements of the Rush Medical College that similar advantages are afforded for personal clinical instruction in some of the departments, though perhaps less in detail than that just mentioned. We have no hesitation in claiming that there are no hospitals in the great cities of the Eastern part of our country where, during the last quarter of a century, more faithful or systematic clinical instruction has been given at the bedside of the sick, than in those of New Orleans, Louisville, St. Louis, Cincinnati, Chicago and Detroit. And there are no medical colleges in the former cities whose faculties have done as much to make attendance on such clinical instruction a *necessary* part of the student's education, as has been done by the faculties of many of the colleges in the last named cities.

While on the subject of this comparison of the colleges of the East and West, we will go further and remind our Eastern friends of a few historical facts which they will do well to remember. If they will take the trouble to refer to the proper records, they will find that when, in 1866, the American Medical Association had become weary of listening to report after report from the standing committees on medical education, and of adopting resolution after resolution recommending the colleges to adopt a higher standard of requirements for the graduation of students and a better system of college instruction, it was a representative from a *Western* medical school that moved the call for a convention of delegates from medical colleges exclusively to take action on these topics. And when in obedience to the call the college delegates assembled in convention in Cincinnati, May, 1867, there were found to be present representatives from medical colleges in every large city in the West and Southwest, not excepting San Francisco on the Pacific Coast, while not a representa-

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tive appeared from any college in New York, Brooklyn or Boston. Of the eighteen medical colleges represented in that convention, only four were from colleges in the East, namely one from the University of Pennsylvania and one from the Jefferson College in Philadelphia; one from the Medical College in Albany, N. Y.; and one from the Berkshire College in Pittsfield, Mass.; all the rest being from colleges in the West and South.

In looking further, it will be found that the propositions embodying a full scheme of medical college education, including a fair standard of preliminary education and a full *three years' graded course* of study, of which "clinical medicine and clinical surgery in a hospital," constituted an essential part, were prepared and presented for the consideration of the convention by a delegate from a Western college; that after three days of careful consideration and free discussion, the several propositions were adopted without any essential alterations, without a vote in the negative. Let it be remembered that this was done by a convention of delegates representing *fourteen* medical colleges "scattered throughout the West and South," *two* in *one* of the "great cities of the East," and two in the smaller cities of the East; that it was in 1867; and that the propositions then deliberately adopted embraced fully all the "great reforms" alluded to by the editor of the *Medical Record*, except that of lecture fees. That convention appointed a committee of five, to furnish copies of the propositions adopted to the faculties of all the regular medical colleges in the United States, and ask for their practical adoption. The same committee was authorized to call another convention if, in its correspondence with the medical colleges, such a step should be thought advisable. The committee performed its duties faithfully, and reported the full results of its correspondence with the colleges to a second convention which assembled in the City of Washington in May, 1870.

In this second convention twenty-one medical colleges were represented by accredited delegates. Of these, two were located in Philadelphia and one in Buffalo; the remaining eighteen were "scattered throughout the West and South," but not one in the great cities of New York, Brooklyn and Boston.

And when propositions for re-affirming and adopting the plan

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agreed upon at the first convention were under consideration and a vote was about to be taken, the question was asked by one of the delegates from a college in St. Louis, whether the action to be taken was to be considered *binding* on the colleges represented or only *recommendatory*, the representatives of the two large schools in Philadelphia, Professors Gross and Stillè, promptly answered that they had *no authority* to bind their respective colleges, while the delegates from many of the leading colleges in the West and South announced that they had come to the convention fully authorized to take such action as would be obligatory upon the colleges they represented. But the entire absence of representatives from the colleges in New York and Boston, with the position taken by those from the colleges in Philadelphia, effectually prevented anything more than a renewal of the *recommendations* made by the convention of 1867. It is thus made apparent by direct historical data, not only, that individual colleges in the West have been much in advance of those in the "great cities of the East" in practically adopting long lecture terms," a full graded three-years course of medical studies, and actual attendance on hospital clinical instruction as a requirement for graduation; but that for fifteen years, at least, a large majority of the medical colleges in the West, from the lakes to the Gulf of Mexico, have been ready to adopt all these improvements with a fair standard of preliminary education added; and have only been waiting for the co-operation of the "larger colleges in the great Eastern cities." Not only is this true as applied to the medical colleges of the West, but it is equally so in regard to the sentiments of the profession at large in the same section, as our friend of the *Medical Record* may find if he chooses to look at the resolutions concerning this subject, adopted by the State Medical Societies of Michigan, Wisconsin, Minnesota, Illinois and Missouri, during the last two or three years. Yet with all the facts to which we have alluded concerning the position of the medical schools and of the profession in the West, on the subject of medical education on record, accessible to any writer who will take the trouble to make the necessary references, Eastern journalists and others continue to represent the scheme of medical college instruction which was established

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in the Chicago Medical College in 1859; fully discussed and approved by two medical college conventions, one in 1867 and the other in 1870, between which periods it was formally presented for the consideration of the faculties of all the medical colleges in the United States, as the "Harvard Plan," and of Harvard College as *the pioneer* school in adopting it. They excuse the *larger schools* of the *great Eastern cities* for withdrawing or standing aloof from the American Medical College Association because a majority of its members are "smaller colleges scattered throughout the West and South," and *therefore unable* to adopt any great reforms without a "fatal loss of membership." We confess that we are a little out of patience with this persistent misrepresentation of the facts of past history and of present relations—this Pecksniffian assumption that there is nothing of value or importance in the medical institutions of this country outside of that circumscribed strip of territory lying between the eastern part of the Alleghanies and Plymouth Rock.

And having entered our protest in as respectful a manner as possible, we shall in another number of the JOURNAL AND EXAMINER state what we think needs to be done for the best interests of the Association, the profession, and the colleges in all sections of our country.

EFFECTS OF INOCULATING THE LOWER ANIMALS WITH DIPHTHERITIC EXUDATION.

Supplement No. 7 of the *National Board of Health Bulletin* contains a detailed report concerning a series of experiments and observations on the above subject by Drs. H. C. Wood and Henry F. Formad, of Philadelphia.

These gentlemen inoculated eighteen rabbits, three dogs, ten cats, and one goat, with the membranous exudation from persons sick with diphtheria, by inserting it beneath the skin or into scarifications in the membrane lining the mouth, and in some by introducing it in both places. Of the thirty-two animals thus inoculated, only six died. In these six, the time between the inoculation and death varied from two to fifteen days.

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In only one of the fatal cases was there found any false membrane on the mucous membrane of the fauces or larynx, and in that one it was very slight. Neither did these gentlemen find any micrococci, either in the internal organs of those which died or in the blood of the living.

The post-mortem examinations did show that "in every case the internal organs were tubercular, and in many cases intensely so." They also state explicitly that "in no case did inoculation in the mouth produce either local or general symptoms."

To determine whether the rapid development of tuberculosis in the animals inoculated was caused by any *specific* influence of the diphtheritic matter used, or only the result of a local inflammation from any cause, nine rabbits were treated by inserting simply small bits of wood or glass, or bit of wire, and in one a bunch of clean hair, beneath the skin. Five of the nine sickened and died at periods varying from fifteen to twenty-eight days. In each case the post mortem examinations showed extensive tubercular infiltrations in nearly all the internal organs, differing in no essential particular from the appearances in those dying after inoculation with the diphtheritic matter. In four rabbits the diphtheritic exudative matter was applied to the mucous membrane lining the trachea. In one of the four, pseudo-membranous trachitis was produced, followed by death; the other three remained well. The experimenters next tried the effects of applying simple irritants to the tracheal membrane. They applied a few drops of aqua ammonia in five rabbits, one cat and one dog. One of the rabbits died at once from the operation; too much ammonia having been used. Of the other six, five died in from one to three days, all presenting well formed pseudo-membranous formations in the larynx and trachea, identical in appearance with the ordinary croupous membrane, and containing plenty of bacteria. A fifth series of experiments consisted in the inoculation of the trachea in ten rabbits, with pus and other morbid animal substances. Of these, six died in periods ranging from one to nine days; only two of them presenting well marked false membrane in the trachea. It will be seen that the whole number of animals experimented on was sixty-two.

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Drs. Wood and Formad close their interesting report with the following comments:

"In looking over the last table, it will be seen that in two of the ten experiments pseudo-membranous trachitis was caused by the introduction of organic matter into the trachea. In both of the cases in which false membrane was produced, the injected material was pus; and it will be noticed that only four such experiments were made, so that the proportion of successful result is very large; much larger, indeed, than with true diphtheritic exudation in our experiments.

"Trendelenburg found that not only ammonia, but also various other chemical irritants are capable of causing the formation of false membrane in the trachea; many years since it was proven that tincture of cantharides will do the same thing. It would seem, therefore, that in the trachea the formation of a pseudo-membrane is not the result of any peculiar or specific process, but simply of an intense inflammation, which may be produced by any irritant of sufficient power. This fact, certainly, is very suggestive in regard to the pathology of diphtheria, and whilst we are not prepared to commit ourselves to any theory, it does seem proper to call attention to certain facts as indicating a very simple explanation of the peculiarities of the disease.

"It is certain that as in the lower animals, so also in man, will chemical irritants produce a pseudo-membranous trachitis; we are also well assured that there is no anatomical difference which can be detected with the microscope, between the lesions of true croup and diphtheritic angina. A difference has been believed by some pathologists to exist between the two diseases, in that in croup the membrane separates easily; in diphtheria with great difficulty from mucous membrane. This seems to arise from a misunderstanding. The mucous membrane of the fauces and mouth has a squamous not easily detached epithelium, and consequently membrane connected with or springing from such surface is firmly adherent. The epithelium of the trachea is columnar, ciliated, and detaches with the utmost facility even in normal condition of the organ; hence membrane attached to it separates readily. The membrane of diphtheritic trachitis is always readily detached in the line of the epithelium. Our

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preparations also show that the exudation of the croupous inflammation excited artificially in the trachea is not merely superficial, but also extends below the basement membrane. Some of the best clinical authorities of the day teach that there is no essential clinical difference between true croup and diphtheria, cases commencing apparently as local sthenic inflammation and ending as the typical adynamic systemic poisoning. Every practitioner must have seen cases of angina in which he was in doubt whether to call the affection diphtheria or not; the very frequent diagnosis of "diphtheritic sore throat" is a strong evidence of this. There have been cases in which diphtheritic matters absorbed by a wound have produced symptoms very closely resembling those of ordinary septic blood poisoning from post mortem wounds, etc.; there have been cases of the formation of false membrane about wounds, etc., without any known exposure to a specific diphtheritic poisoning, indicating that the systemic tendency to this peculiar form of exudation is capable of being engendered by other than the specific poison of diphtheria; finally, diphtheria seems sometimes to be produced by exposure to cold.

A general view of these facts seems to indicate that the contagious material of diphtheria is really of the nature of a septic poison which is also locally very irritant to the mucous membrane; so that when brought in contact with the mucous membrane of the mouth and nose it produces an intense inflammation without absorption by a local action. Whilst absorption is not necessary for the production of the angina, it is very possible that the poison may act locally after absorption by being carried in the blood to the mucous membrane. Further, under this theory it is possible that the poison of diphtheria may cause an angina which shall remain a purely local disorder, no absorption occurring, or a simply local trachitis produced by exposure to cold or some other non-specific cause may produce the septic material when absorption shall cause blood poisoning, the case ending as one of adynamic diphtheria.

Some such an explanation as those here offered seems to reconcile antagonistic opinions concerning the value of local treatment in diphtheria; because it is plain that the value of such treat-

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ment must largely depend upon whether the angina has or has not been preceded by absorption.

There is one more important clinical feature of the disorder, which under other views of the disease seems inexplicable, but which with the present theory is easily explained. Diphtheria differs from the exanthemata by the fact that one attack in no way protects against a second. It will be seen that the theories here put forward remove the affection entirely from any relation with exanthema; placing it rather with septic diseases; which as is well known, may recur indefinitely.

We want, however, distinctly to state that we do not consider these ideas to be more than suggestions, and it is useless to speculate, except as a guide to further experimental research; it does seem to us that there are now two pathways clearly open which if carefully followed must lead to important positive or negative results. The first of these consists in the making of careful culture experiments to determine whether there is or is not any difference between the bacteria of ammonia and diphtheritic false membranes; the second, the study of the induction of epidemics of pseudo-membranous angina and trachitis in the lower animals and the relation to these of the rapid cases of death produced in the lower animals by diphtheritic inoculation.

There is still another somewhat different view which seems also not repugnant to the known facts of the case. There may be bacteria, which although they offer no points of difference detectable by our best microscopes, are really very diverse. Two spermatozoa or two ova in the higher animals may seem to be exactly alike and yet be potentially widely separated. Although therefore the bacteria of an ammonia false membrane seem identical with those of diphtheritic false membrane, they are not of necessity really so. Careful studies of the blood of patients who die of diphtheria should be made, but at present it seems altogether improbable that bacteria have any direct function in diphtheria; i. e, that they enter the system as bacteria and develop as such in the system and cause the symptoms. It is, however, possible that they may act upon the exudations of the trachea as the yeast plant acts upon sugar, and cause the production of a septic poison which differs from that of ordinary putrefaction,

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and bears such relations to the system as to, when absorbed, cause the systemic symptoms of diptheria. Now, these bacteria may be always in the air, but not in sufficient quantities to cause trachitis, but enough when lodged in the membrane to set up the peculiar fermentation; whilst during an epidemic they may be sufficiently numerous to incite an inflammation in a previously healthy throat.

DIFFICULTIES OF DIAGNOSIS.

The prevalence of a mild grade of fever in the Plaquemine Parish, La., on the Lower Mississippi, during the months of August and September, has furnished another instance of the difficulty of ascertaining reliably the *nature* of certain outbreaks of disease, especially when of limited extent and duration. The fever to which we have alluded in Louisiana, commencing at a time when yellow fever was anxiously watched for, was quickly brought to the notice of the member of the National Board of Health resident in New Orleans. He sent Dr. G. M. Sternberg, of the U. S. A., to investigate the same, and he reported that it was a mild type of genuine yellow fever.

Founded upon this decision, the National Board of Health promptly ordered an appropriation of from $5,000 to $10,000 to be placed at the disposal of the Louisiana State Board of Health, for use in executing necessary measures for preventing the spread of disease. But as the Louisiana State Board regarded the fever in question as one of *malarial* origin, the generous tender of aid from the National Board was declined. At this point the member of the latter board in New Orleans called to his assistance the member of the same board at Memphis, and, after consultation, it was agreed that a committee consisting of Dr. J. Dickson Bruns, of New Orleans, Dr. J. P. Davidson, of the Louisiana State Board of Health, and Surgeon Sternberg, of U. S. A., should visit the infected district and personally make such examination as would enable them to decide more satisfactorily the nature of the prevailing disease.

The results of the investigations of this committee were two reports—one by Surgeon Sternberg, adhering to his previously

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expressed opinion that the disease was a "mild type of yellow fever;" the other by Drs. Bruns and Davidson, though written by the former, declares as follows: "Of the nature of the fever, without multiplying details, I will simply say that neither in its special features nor in their entirety could I realize a single prominent characteristic of yellow fever." When we remember that all the members of the committee were not only members of the profession in high standing, but thoroughly familiar with yellow fever for years, their arrival at opposite conclusions is somewhat remarkable. It should be stated, however, that, notwithstanding the report of a majority of the committee was to the effect that the disease in Plaquemine Parish and neighboring districts was not yellow fever, the members of the National Board of Health resident in New Orleans and Memphis side with the report of the minority of the committee, and in the *National Board of Health Bulletin* for October 9, declare as follows:

"1. That yellow fever (about one hundred cases) existed between August 1 and September 10 in Plaquemine Parish, La.

"2. That the outbreak had its origin in the immediate vicinity of the Mississippi River Quarantine Station, the first case (August 1, 1880) occurring directly opposite the point where the infected bark 'Excelsior' was detained from July 11 to August 16."

Consequently, all interested in the study of yellow fever, whether sanitarians or practitioners, who look for facts and statistics to the published records of official sanitary organizations, will be likely to take the authority of the National Board as conclusive, and include this fever on the Lower Mississippi in 1880 as an acknowledged prevalence of yellow fever. This affords a fair sample of many of the alleged facts concerning the prevalence of particular diseases to be found in our medical literature, and it gives rise to several important reflections: First, it forces us to suspect that many of the so-called facts concerning the nature, prevalence and prevention of diseases of which we read, rest on imperfectly observed or doubtfully established data. Second, if we assume that Drs. Sternberg, Bemis and Mitchell are correct (and we are not disposed at present to criticise their

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opinion), we must acknowledge that a prevalence of mild yellow fever has existed over a considerable district of country, beginning in spite of quarantine against importation, and ceasing to spread without internal quarantine or isolation and with but little sanitary interference. But supposing the State Board of Louisiana had accepted the appropriation of the National Board and spent the five or ten thousand dollars in a vigorous isolation and disinfection of every case in the Plaquemine Parish, what would have been the inference? The disease would doubtless have maintained its mild character and disappeared in due time, and would not such a result have been claimed as another triumph of enlightened sanitation over the prevalence of disease? Certainly it would. And yet the claim would have been entirely deceptive or false, as many of those already on record doubtless are. We are not now arguing against the importance of sanitary or preventive medicine, but only trying to realize how easy it is to be deceived, or, more properly, how difficult it is to keep the line of distinction between true *effects* and mere coincidences.

There is, however, another view to be taken of this subject, of no little interest. Those who look over the number of the *Bulletin* to which we have alluded, will see that Drs. Sternberg and Bemis both claim that the disease on the Lower Mississippi, which they call yellow fever, is of a very mild type, causing a very low ratio of mortality. Speaking of his two visits, Dr. Sternberg says: "I have not seen during either visit any case which, *alone*, would enable me to make a positive diagnosis of yellow fever; but from a consideration of all the cases seen by me during my two visits, and of the facts relating to the origin and progress of the epidemic, cannot doubt that this fever is *the mild type* of yellow fever which has been described under various synonyms given in my previous report, and which Blair more properly calls 'yellow fever *simplex*,' to distinguish it from the more malignant type called by him '*gravier*.'" In another place, after alluding to the opinions of Bérenger-Feraud and others, he says: "Such is the resemblance of this form of fever with the first degree of yellow fever that when it is observed sporadically without an epidemic of yellow fever, the doctors of the country say, 'If we were in the time of yellow fever, we

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would say that it is yellow fever.'" And he adds: "For me, this fever is identical with yellow fever, and only differs in degree from the more severe forms which, because of the fatality which attends them, are known and dreaded by all." If we concede the correctness of Dr. Sternberg's position, that the mild fever of Plaquemine Parish, and the sporadic cases resembling yellow fever that occur in various places within the yellow fever zone almost every year, are really idendical with yellow fever proper, differing only in degree of severity, precisely the same process of reasoning on a parallel series of facts would compel us to regard the ordinary endemic cholera morbus as identical with epidemic cholera; and sporadic erysipelas as differing from the epidemic form only in degree of severity, etc., etc.

But, taking this view, what becomes of the doctrine of the importation of germs, and the spread of these diseases by contagion?

Shall we say that the same identical diseases may be indiginous and non-contagious when in a mild form, and dependent on an imported cause and freely spread by contagion when severe? These are questions which we have long regarded as worthy of the most careful consideration, but which we have not now time to answer.

ORGANIC MATTER IN THE AIR.

In the *National Board of Health Bulletin* for September 11th, 1880, is an interesting report on this subject by Ira Remsen.

The author of the report describes fully his methods of investigation, but points out the many difficulties to be encountered, and acknowledges the inconclusive nature of his results. The whole report is valuable as a step in the right direction, but is too lengthy for copying in full. The following, however, are his conclusions and suggestions:

"In looking back over the field traversed I cannot avoid a feeling of dissatisfaction. A great deal of time has been spent in this investigation. Constant attention to minute details has been necessary, and at times disappointment has followed disappointment. Here and there, however, light has been thrown upon the

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subject; and whatever its future development may be, I think the facts established here will always stand. Let us, then, pass quickly in review the main results.

"1. The nitrogenous matter of the air may be thoroughly collected by means of the pumice-stone absorber described in this report.

"2. The total amounts of ammonia found in experiments performed at the same time with the same specimens of air, agree fairly well with one another; so much so as to warrant the use of the method for the examination of the air.

"3. When free and albuminoid ammonia are determined, the results obtained do not always agree very closely, but still the agreement is sufficient to enable the experimenter to detect such variations as are likely to occur between pure and impure air.

"4. Air contaminated by being drawn through water containing decaying meat, does not yield more than the usual quantity of albuminoid ammonia.

"5. Air contaminated by being drawn over comparatively dry decaying organic matter, yields more than the usual quantity of albuminoid ammonia.

"6. Air contaminated by respiration, yields more than the usual quantity of albuminoid ammonia.

"7. It is necessary in judging of the purity of air to take all the facts known in regard to it into consideration. The simple determination of any one constituent can never be a sufficient basis for the formation of a competent judgment.

"8. It would be useless to have examinations of air made by any but the most careful workers. It would be time thrown away to have such analyses made by the average practical chemist.

"Finally, as to suggestions for the future. A number of questions have been left unanswered in this investigation. A very important one is this: Is the air which has been deprived of its nitrogenous matter also deprived of injurious constituents? If this is ever to be answered, it is evident that it cannot be by chemical methods. The effect of the air on fermentable liquids must be studied, and also on animals. Can an animal continue to breathe normally in such air?

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"A second question which ought to be answered is this: Does the amount of organic matter in the air vary with different conditions of the air, as for instance, with the hygrometric state? This can only be answered by a long-continued, systematic series of examinations of the air, such as are at present being made at Glasgow, Montsouris, and at some places in Germany. It may be said, however, that, up to the present, no connection has been observed between the amount of organic matter and other conditions of the air.

"Again, it would be interesting to determine how much nitrogenous organic matter from ordinary contaminating sources can be held in suspension in the air.

"Many other questions suggest themselves, but those given above indicate that an almost unlimited field opens before us, and show clearly that the only way in which results of great value can be reached is by united effort. A single individual can do little more than point out the way in which results may be reached, and clear the road for advances. It will only be when health departments in a great many places are impressed with the importance of such subtle examinations as those of the air, and provide the means for making them through long periods, that our knowledge will be materially increased on the subject treated in this report. When records, made year after year by competent men using the best methods, are in our possession, then probably conclusions of great importance for sanitary science will be drawn."

In consequence of a singular error in proof-reading, the name of the author of the interesting lecture on the treatment of urethral stricture by the "perineal section," published in our last issue, was announced as L. Ranney. We take this opportunity of stating that the contributor who kindly favored us with the production referred to was Professor Ambrose L. Ranney, Adjunct Professor of Anatomy in the University of the City of New York, Medical Department.

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Original Translations.

MENSTRUATION AFTER A REMOVAL OF THE UTERUS.—Dr. Tillaux reported to the Academie de Médecine, Paris, August 31st, the case of a woman in whom he had removed the body of the uterus sixteen months previously. Menstruation returned more frequent and in smaller quantity from the remaining portion. Another woman continued to menstruate after a removal of the ovaries.

INFLUENCE OF OXYGENATED WATER ON FERMENTS.—Dr. Regnard has mixed a few drops of oxygenated water with yeast, urine, milk, wine, white of egg, etc., and after a month none of these had undergone fermentation.—*Société de Biologie.*

PARIS.—Dr. Bouchardat writes to the Academie de Médecine that the most frequent cause of infantile mortality in that city is diarrhœa; that the latter is mostly caused or induced by the use of milk which is taken twenty-four hours after milking, when the lactic fermentation has already begun. The best treatment is to resume nursing from the breast.—Dr. M. J. Guérin reports to the same body, Sept. 7, favorable results in the treatment of that disease from the addition of pulverized charcoal to the milk.

RESULTS OF THE TREATMENT OF AORTIC ANEURISMS BY GALVANO-PUNCTURE.—Dr. L. H. Petit reports 114 cases treated. The interrupted current was employed in 111 cases. Of the 114, sixty improved, thirty-eight died without improvement, three were treated without result, and four doubtful; thirty-eight died within a year, after a marked improvement; ten after one to two years. The rest survived from two to five years. The

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rupture of the aneurismal sac was constated forty times in the fatal cases which remained under observation.

DR. GENTILHOMME, of Rheims, refers acne to the presence of a parasite *demodex* in the sebaceous glands. The destruction of this parasite requires a long and tedious treatment, and the disease is likely to return if a few parasites have escaped.

PROF. TOUSSAINT relates more anthrax vaccinations. Some of the animals died, perhaps because some germs had remained in the serum used after filtering. Animals once vaccinated are not susceptible to a second vaccination.—*Revue Medicale*, Sept. 4th.

RECIPROCAL INFLUENCE OF PREGNANCY AND HEART DISEASE. By Dr. Ch. Parak. In a large number of recorded cases, patients remained stationary in 25 per cent., grew worse in 65.74 per cent., died in 38 per cent., and improved in 26 per cent. Labors at term, 58.87 per cent.; before term, 41 per cent., including abortions.

LARYNGOLOGICAL CONGRESS AT MILAN, SEPT. 2D.—Dr. Maurice Schmidt has observed nineteen cases of phthisical laryngitis cured in 315 cases which he treated in the space of three years. Antiseptics preferred. Inhalations of Peruvian balsam, phenic acid, or glycerite of creosote. Local applications of a solution of nitrate of silver, 24 to 48 grs. to the ounce.—Dr. Caselli presents the case of a girl, nineteen years old, in whom he has removed the larynx, the pharyngo-buccal wall, the uvula and part of soft palate, the tonsils and part of base of the tongue. The introduction into the trachea of two canulas enables the patient to eat, and the use of a canula with a sort of musical arrangement enables her to speak.

PARIS, Aug. 17th.—A case of hydrophobia was treated by electricity—ten cells (Trouvé-Callaud) being used. The application of the electrodes to the larynx reduced the spasms every time. Patient died from a dispute with a medical attendant, which brought on coma.

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NECROLOGY.—Dr. Delpech, a member of the Academie de Médecine, died Sept. 5th, aged 62, from an attack of angina pectoris.—Dr. Lepeyrère, a noted writer in the medical press, has lately died at Boulogne-sur-Seine.

A MEDICAL COLLEGE has just been established at Algiers, after an edict of the president of France. No European is admitted. Course consists of four consecutive terms (of three months each), and the graduates will be called *sous-officier de sante de l'Algerie.*

KLEBS ON THE SPECIFIC AGENT OF TYPHOID FEVER.—Prof. Klebs, of Prague, believes that he has discovered the micro-organism which constitutes the specific agent of typhoid fever, and develops his views in a paper entitled "Der Ileotyphus eine Schistomy cose," published in the *Archiv. für Experimentale Pathologie*, t. 12, p. 231, 1880 (*British Medical Journal*). Prof. Klebs has for a long time, assisted by his pupils, been making researches in this direction. He writes that he has been able to find, at the necropsy of twenty-four persons carried off by dothinenteritis, microbes in various organs—in the intestinal mucous membrane, in the thickness of the cartilages of the larynx, in the pia mater, in the foci of lobular pneumonia, in the mesenteric ganglia, in the parenchymata of the liver, and generally diffused in the organs which showed the most decided lesions. These micro-organisms showed themselves in the forms of rods about eighty micrometers in length and 0.5 to 0.6 micrometers in thickness. They have been constantly observed in the bodies of dothinenteric patients since the attention of Prof. Klebs was drawn to the subject, and they are always absent from the organs, and specially the intestines, of subjects who have died from any other disease than typhoid.—*Louisville Med. News.*

THE serious illness of Prof. T. D. Fitch, of this city, still is the occasion of anxiety to his many friends here. We hope in our next issue to announce the fact of his safety.

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Selections.

CASE OF STRANGULATED VERMIFORM APPENDIX; OPERATION; DEATH; REMARKS. (Under the care of Mr. PICK.)

The case in which the vermiform appendix of the cæcum had descended into the sac of a hernia and had there become so tightly strangulated as to produce very severe symptoms, necessitating operation and terminating in speedy death, appears to be worthy of being placed on record on account of its rarity.

Robert E., aged fifty-four, painter, was admitted into the hospital on February 21st. He stated that he had ruptured himself twelve years previously, but that his hernia, which he had always been able to return, had never given him any trouble nor prevented him following his occupation. He had therefore paid no attention to it, and had never worn a truss. Five days before admission his rupture came down, and he was unable to push it back again. Soon he began to suffer great pain in the part, and it became much swollen. His bowels had not acted since the descent, and he had been constantly sick, the vomit latterly having been of a very offensive nature. The day before admission a medical man made a prolonged attempt by taxis to reduce the hernia, but without success. The proceeding caused him great pain.

When admitted he was in a state of collapse. The surface of the body was cold and covered with a clammy sweat; the pulse was scarcely to be felt, and very quick; the tongue was coated with a white fur; the abdomen was tympanitic, but not rigid. In the right inguinal region and lower part of the abdomen, extending nearly to the level with the umbilicus, the tissues were swollen and œdematous, and the skin was red. Just below and internal

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to the abdominal ring was a tense, hard swelling, which occupied the upper part of the scrotum and extended up into the inguinal canal, along which considerable fullness and hardness could be felt. There was no impulse on coughing, and the patient did not complain of much pain during the examination.

He was at once placed under the influence of ether, and a vertical incision was made over the external abdominal ring. Upon cutting into the subcutaneous tissue a large quantity of serum escaped. The various coverings of the sac were then divided. They were much infiltrated, and adhered to each other. The sac, having been exposed, was opened, and a large quantity of thick fetid pus escaped. The sac wall was very much thickened, and was coated on its internal surface by flakes of lymph. After the fluid contents of the sac had been carefully sponged away, the sac was found to contain only the vermiform appendix. The portion of intestine was much thickened and congested, and, like the anterior of the sac, was covered with flaky lymph. The stricture, which was so tight that it was with difficulty divided, was situated at the neck of the sac. After the division of the stricture the finger could be passed freely up into the abdominal cavity. The vermiform appendix, which was not perforated, was now carefully cleansed, and returned just within the opening in the abdomen. As the sac was in a state of acute suppuration, it was dissected out from the tissues with which it was in contact and removed; the external wound was then closed. The operation was performed with strict antiseptic precautions. During the operation the patient was very faint and collapsed, and required brandy. He never rallied after his removal to bed, and died in about five hours.

Necropsy.—There was a wound some three inches long over the right inguinal canal, closed by silver suture. The wound being opened gave access to a small sac communicating directly with the peritoneal cavity by its neck, which was about one-third of an inch in diameter. At the upper part of the sac was the extremity of the appendix cæci, adhering by soft adhesions, which were easily broken down, to the lining membrane of the neck of the sac, which was continuous with the peritoneum. The rest of the appendix and the cæcum were close to the opening of the sac

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in the abdominal cavity. At the point of junction of the appendix to the cæcum was a ring of discoloration, and here the tube was compressed and slightly ulcerated. The appendix was thickened and covered by flakes of lymph, but otherwise appeared tolerably healthy. The peritoneum in the neighborhood of the sac was dark colored, showing a little soft lymph on its surface. There was no general peritonitis. The lungs were very emphysematous and congested. There was puriform fluid in the bronchi. The heart weighed ten ounces; it was uncontracted. There was a little partially decolorized clot in the right ventricle. The muscular tissue was very soft and friable, and had undergone considerable fatty change. The valves were natural. The liver weighed 3½ lb.; it was soft and pale, and infiltrated with fat. The other organs were natural.

Mr. Pick remarked in connection with the above case that it was one of great rarity. He had never certainly seen a similar case. Nor did he even remember to have read of one where the vermiform appendix was strangulated. Of course cases where a portion of the bowel, probably cæcum, and the vermiform appendix together were found in a hernial sac were not uncommon. He had looked through the tables of operations for strangulated hernia in St. George's Hospital for the last twenty-eight years, and had not been able to find an instance of the same thing mentioned in these records, nor had he found the subject alluded to in any of the authors he had consulted. It seemed difficult to account for the way in which the vermiform process had become strangulated. How a tube of such small dimensions as the appendix should have been so tightly constricted in a canal which on previous occasions had allowed the passage of a much larger body, as a portion of the gut, or, at all events, omentum. For it seemed perfectly clear to his mind that the hernial sac must on a former occasion have contained either gut or omentum, for he could scarcely conceive how a soft, free, movable tube like the appendix could produce a hernia by forcing before it the peritoneum along the inguinal canal, though it was easy to understand how it might find its way into a hernial sac when it was once formed. He could come to no other conclusion than this, that the sac had been originally formed by the protrusion of a portion of intestine

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or omentum in the usual way, and into the sac thus formed the appendix has descended. It seemed strange under these circumstances that it should have become stangulated, and at the operation he had expected, when he saw what was in the sac, to find a small knuckle of intestine high up by the side of the appendix, but that this was not the case was abundantly proved by the post-mortem examination, which showed that the whole of the intestine was natural, except this little process, and that this had been tightly constricted was proved by the ring of ulceration which surrounded it, at the point of constriction, close to its junction with the cæcum. He believed that the strangulation must be explained by supposing that some inflammatory exudation had taken place in the tissues external to the neck of the sac, and that this was the cause of the stricture. From whatever cause it had arisen it was very tight, for it was with the greatest difficulty that the extremity of the hernia knife could be got beneath it to divide it.

Another point of interest was, he said, the acute symptoms which were produced. One would scarcely have imagined that constriction of the appendix would have produced such urgent symptoms, and such early vomiting, for it must be borne in mind that this was a very different thing to strangulation of a portion of the intestine, in which the perfect condition of the tube was essential to life. With regard to the appendix cæci it was not so; this tube might become obliterated without any absolute detriment to the patient, and Mr. Pick supposed that if the operation could be performed with safety it might be removed without in any way interfering with the natural functions of the individual. The symptoms of strangulation were due, no doubt, to arrested peristaltic action; but it was difficult to understand why this arrested peristaltic action should have taken place so suddenly from constriction of a small tube like the vermiform appendix, which was not essential to life. Mr. Pick further stated that at the time of the operation he was in considerable doubt as to how he should deal with the appendix; whether he should return it into the cavity of the abdomen, or whether, having freed the constriction, he should leave it in the sac. On the one hand, it seemed a hazardous proceeding to return it, actually inflamed as it was, and

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covered over by shaggy lymph, into the abdominal cavity; and on the other hand, if it were allowed to remain, it would undoubtedly contract adhesions to the tissues with which it was in contact, and would therefore always remain as an incurable hernia, and might possibly become again strangulated by the contraction of the tissue during cicatrization. Under these circumstances he decided upon pushing it back just within the cavity of the abdomen, and leaving it there in the expectation that it would contract adhesions to the peritoneum in the neighborhood of the abdominal ring. And that this did occur was shown by the post-mortem examination, when it was found that it was already adherent in this situation.—*London Lancet.*

EPITHELIOMA OF THE UPPER END OF THE ŒSOPHAGUS. (Case under the care of DR. POORE.)

R. S., a charwoman, aged sixty, first attended on March 1, 1877. She was much emaciated, and stated that since Christmas she had had a difficulty in swallowing which had gradually increased. Attempts at swallowing produced fits of coughing. There was some pain between the shoulders. She had spat blood on two or three occasions. She had miscarried three times, one child alive and delicate, one stillborn. On examination, the epithelium of the tongue was patchy, thick in places and thin in others, and the pharynx was slightly congested. There was decided prominence of the larynx, and slight and doubtful enlargement of glands at angle of jaw. The larynx appeared healthy when examined by the laryngoscope, but between the arytenoid cartilages and the pharyngeal wall muco-pus was seen exuding. On passing the finger into the pharynx an obstruction was felt at the upper part of the œsophagus, and a speck of blood was found upon the tip of the finger on withdrawal. The examination caused the patient to cough, and she expectorated some blood and a small fleshy particle which, when examined under the microscope, revealed nests of epithelial cells quite characteristic of epithelial cancer. The patient was advised to become an in-patient, but on her declining to do so she was ordered a morphia linctus to ease the discomfort of the throat, carbolic-acid

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lozenges to counteract the fetor, and cod-liver oil in large doses. After a time she ceased to attend.

Remarks: The interest of the case consists in the certainty of the diagnosis at the first visit by means of the microscope. The appearance of the tongue and the history of the miscarriage rather pointed towards syphilis, but the discovery of the structure of epithelioma in the expectorated particle left no doubt as to the true nature of the case.

Tumor as big as a hazel-nut, growing from the Left Ventricular Band.—W. W., aged forty-eight, a work-house master, was sent into the hospital on the 18th of July, 1878, suffering from hoarseness and dyspnœa. He had been a healthy man, with the exception of an attack of gonorrhœa. His wife had miscarried three times, but there was no direct evidence of syphilis. The patient stated that he had been liable for some time to a relaxed sore-throat, that he became hoarse somewhat suddenly about a year ago, and that during the last month his symptoms had very much intensified. On July 25 he was seen by Dr. Poore, and subjected to a laryngoscopic examination. The dyspnœa was increased when the patient extended his neck for the purpose of laryngoscopy, so that the examination was not easy, and had to be performed with all possible quickness. A tumor was distinctly visible on the left side of the larynx at its anterior part, and situated, as was thought, below the left vocal cord; the left cord being apparently stretched over it like a shining band. The breathing was stridulous during both inspiration and expiration, and on applying the hand over the thyroid cartilage a distinct vibration could be felt during both respiratory acts, especially on the left side. There was a considerable amount of tenacious glairy sputa. All the extraordinary muscles of inspiration were used, and there was some swelling of the feet. There was no prostration, and no cyanotic tint of the face.

He was placed on large doses of iodide of potassium, on the chance that the tumor might be of syphilitic origin; but no improvement having taken place in two days, it was decided that an operation was necessary. In consultation with Mr. Marshall it was decided that no attempt to remove the tumor *per vias*

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naturales would prove successful. The base appeared to be nearly as thick as the growth itself, and the inability of the patient to submit to more than a momentary laryngoscopic examination, together with the fact that the tumor completely closed the forepart of the glottis, would have rendered the passing of an écraseur over the growth impossible; and any attempt to do so was not thought either desirable or justifiable. It was considered, therefore, that thyrotomy would be the proper operation; and it was resolved that tracheotomy should be first performed, that the thyrotomy should be done subsequently after the lapse of some days, so as to give the patient time to recover from the shock of the first operation, and to allow of the second operation being performed with greater deliberation.

Tracheotomy was performed with all possible skill by Mr. Bond, the house surgeon, but the patient never rallied afterwards, and died in a few hours.

On post-mortem examination the mucous membrane of the larynx was found to be considerably injected, especially at the upper and left part. Attached to the left ventrical band at its forepart was a smooth, lobed, hard growth as big as a hazel-nut, and with a broad base. It was of a pinkish color, and marked on its upper surface by a white streak. This appearance had led to the idea of its being situated below the cord. A microscopical examination by Mr. Boyd, the surgical registrar, showed the growth to consist principally of blood-vessels with small, round nucleated cells between them, and some few spindle-shaped cells.

A Cockle-shell in the Trachea.—T. M., aged eight, was sent to the Throat Department for examination by Mr. Godlee, by whom he had been admitted to the hospital, with a view to operation. It appeared that on the 4th of July the boy was playing in the Regent's park, when a small cockle-shell, which he had picked off the path and placed in his mouth, accidentally slipped into his windpipe. The boy was suffering from some dyspnœa, with slight recession of the thorax during inspiration; both inspiration and expiration were accompanied by bronchitic râles, audible all over the chest. The boy pointed to the trachea as the seat of his trouble, the pressure on a spot about one inch above the sternal notch caused him pain. He was troubled occasion-

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ally with fits of spasmodic coughing. He was a timid, fidgety lad, and by no means a good subject for laryngoscopic observation. On July 10, after much trouble, a momentary glance of the larynx was obtained, and a white body was seen below the vocal cords. On the following morning a further examination was made, and a white body was distinctly visible on the anterior wall of the trachea, about an inch below the vocal cords. While endeavoring to demonstrate the presence of this foreign body to one of the students who was present, the patient was seized with a very violent fit of coughing, and coughed up a small cockle-shell nearly as big as a threepenny piece. The shell was perfect, with sharp edges, and had apparently got fixed in the mucous folds of the trachea. The shell had been in the trachea just a week. After coughing up the shell all symptoms disappeared, and the patient left the hospital on the following day quite well.

LARGE INTRA-MURAL MYOMA REMOVED BY ENUCLEATION. (Under the care of Mr. LAWSON TAIT.)

A. H., aged twenty-eight, was admitted into the hospital on May 15th, suffering from profuse menorrhagia. The fundus was found to be retroflected to an extreme degree, and of very large size. The diagnosis of myoma was made, and an attempt to dilate the cervix by Mr. Tait's plugs was made, but it was unsuccessful owing to the extreme retroflexion. The cervix was therefore completely divided by the hysterotome, the thick capsule of the tumor opened, and the tumor separated as far as the fingers could reach. The patient was so extremely anæmic that everything done to her was done in the constant fear of the production of heart-clot, and even the administration of ether in her case seemed risky. Nearly eight weeks elapsed after this preliminary proceeding before it was deemed safe to do anything more, when it was found that the opening into the capsule had closed, though the division of the cervix had remained permanent. On July 26th the dilating plugs were applied, and next day the cervix was so open that a large free incision over the tumor was made, and the tumor freely separated. On August 4th the tumor was found presenting through the os, and a large piece of it was removed by the écraseur. On August 12th the rest of it

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was found extruded and hanging by a thick pedicle, which was divided and the mass removed. For many weeks after this operation she hung between life and death, and made a convalescence protracted over nearly eight months.

Mr. Tait is of opinion that in such a case removal of the ovaries is a much safer operation than enucleation of the tumor, and in his hands it has given much better results. Out of five cases where he has performed vaginal enucleation in the last three years, there have been only two recoveries, whilst of seven similar cases in which he has performed oöphorectomy there has been only one death, and that death was due solely to the operation having been too long delayed.

CASE OF PHTHISIS, PROBABLY OF CONTAGIOUS ORIGIN. Under the care of Dr. MURRELL.)

The chief point of interest in the case was the history, the symptoms having appeared immediately after nursing her husband, who died of phthisis.

Lizzie E., aged twenty-six, was admitted on Sept. 1st, 1879, with phthisis pulmonalis. Her family history was good. Her father, a captain in the navy, was always a very strong man and died of fever abroad. He was not subject to cough, and never, to the best of her knowledge, suffered from any chest complaint. Her mother was living, aged sixty-four years, had been "asthmatical" for the last twenty years. She also had a cough, more or less, all the year round, and was very short of breath if she went out in the fog. The patient had three sisters, all well and healthy. There was no apparent trace of consumption at all in patient's own family.

She was quite well in every way up to the time of her marriage. Her husband, as far as she knew, was a healthy man when she married him, but he came of a consumptive stock. His father died of bronchitis and his mother from phthisis. One of his brothers was, at this time, dying from consumption, and another was far gone with it The patient was married in April, 1878, and in the second week of the following July her husband broke a blood-vessel and lost a great deal of blood. After that he had a cough, grew weaker and weaker, and could hardly do anything.

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In August he got too weak to go out, and from that time till the day of his death, in February, 1879, he was assiduously nursed by his wife. He expectorated a great deal, a spitting-cup was of no use to him, and he had to have a hand-basin with water to spit into. Patient hardly ever left him and slept with him. At night he perspired very much, but not enough to wet patient's things, or make her cold. She was in and out of bed pretty well all the night, through the long cold winter of 1878–9, and he refused to have a fire in the room.

After her husband's death the patient was worried and pressed for money, but did not suffer in any way from want of food or comforts. She went to live with her mother and was as well off there as she would have been at home, or perhaps better. She had no cough up to the day of her husband's death; she was then completely knocked up, was seized with cold shivers, which continued for three days. She had a bad cough, and that gradually got worse. Nine months after she had coarse crepitation at both apices, was losing flesh, and sweating profusely at night—was in fact consumptive.

It is certainly a question worth considering whether in cases of advanced consumption with copious expectoration there is not some danger of infection, however slight.

POPLITEAL ANEURISM; TREATMENT BY FLEXION; CURE. (Under the care of Mr. NEWNHAM.)

Leorge L., aged forty-four, a goods-guard, was admitted with popliteal aneurism. His previous history was excellent: he had never had syphilis, and had always been abstemious. Several months before he noticed the aneurism he wrenched his knee, and had to lay up for a short time. He could remember no other injury to the leg, nor could he recollect having made a forcible or sudden muscular effort to lift weights.

The history of the aneurism was as follows: Three weeks before admission (since January 10), the patient noticed a pulsation in the left popliteal space. His attention was directed to the seat of disease by pain in the calf when walking, the pain passing off if he stood still even for a moment. He thought that the

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swelling when he first noticed it was nearly as large as on admission.

On January 31 he was taken in under the care of Mr. Newnham. In the left popliteal space there was a tumor, about the size of a hen's egg. It had an extensile pulsation which could be arrested by pressure on the femoral artery. The area of pulsation extended over the popliteal space. There was a distinct bruit, and a thrill was communicated to the hand. On examining the other arteries of the body, the left radial and temporal arteries were found feebler than the corresponding arteries on the opposite side, but no intrathoracic tumor could be detected. The superficial arteries had not an atheromatous feel, the heart was healthy, and no visceral disease could be discovered. The patient had a cataract of the right eye, which did not result from injury. He was a corpulent man, and somewhat aged in appearance, but his health, he said, was exceedingly good.

The patient was put on meat diet, and given five grains of the iodide of potassium and fifteen of the bicarbonate of potash. He was kept in bed and had an occasional purge. On February 4, he was directed to keep his thigh flexed on the abdomen, and the leg on the thigh; the iodide was increased to ten grains. On the 6th, he was put on a modified Bellingham's diet. Breakfast: bread and butter, two ounces; milk, two ounces. Dinner: meat, two ounces; bread, two ounces; beer, two ounces. Supper: bread and butter, two ounces; milk, two ounces. On the 8th, the extensile pulsation had ceased in the tumor, although the pulsation in the popliteal and posterior tibial arteries could be felt. On the 9th, the angle of flexion was increased; daily allowance of fluid, fourteen ounces. On the 11th, flexion was discontinued; patient put on meat diet, with one pint of fluid. The aneurismal sac was felt to the inner side of the popliteal artery; it was a little larger than a walnut, and felt solid to the touch. The patient was left in bed for ten days after pulsation had ceased, and was discharged on the 9th of March, when the tumor could be scarcely felt.

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Summary.

Collaborators:

DR. L. W. CASE, DR. R. TILLEY,
DR. BYRON W. GRIFFIN, DR. W. L. DORLAND.

PRACTICAL MEDICINE.

DILATATION OF THE STOMACH.—(M. Sée, *Jour. de Méd.* Aug., 1880.)

Dilatation of the stomach is much more frequent than supposed, being the origin of gastric troubles which are either attributed to simple dyspepsia or to an organic lesion. It is all the more useful to discover this affection, as we have in washing out of the stomach a very efficacious means of remedying it. Among the functional symptoms of dilatation of the stomach, the most important is vomiting; it is peculiar in that when the malady has arrived to a certain degree, it is really enormous; one patient vomited twenty or twenty-five liters a day. Vomiting is sometimes followed by a state of profound collapse, by vertigo, by a real tendency to syncope. The matter vomited is of a peculiar nature, being generally mucus, and of a coffee and milk color, as is also seen in cancer; but yet this color cannot always be explained by the presence of blood mixed with this liquid. If vomiting ceases suddenly, it is usually a bad sign; it would be favorable if it coincided with a great amelioration of the general condition; but if, on the contrary, the patient remains weak, if he is not improving at the same time, the cessation of vomiting indicates that the contractility of the stomach has diminished, and that the patient no longer has the power to

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vomit. A frequent symptom, and one that accompanies the vomiting, is constipation. This is due to the fact that a part of the fluids, which normally should be diverted to the intestines, do not go there. Moreover, it is known that among the functions of the bile, one of the most remarkable is its causing contractions of the intestines. Now, in this case, and on account of the vomiting, only a very small quantity of the food enters the bowels, the secretion of bile is suspended, the intestinal contractions are diminished, and there follows a more or less obstinate constipation.

The appetite presents some singular variations; it diminishes or disappears even in subjects who are great eaters, and attacked with dilatation as the result of their excess; but a remarkable fact is that the appetite may return during certain periods. In those treated by washing out the stomach, this return of the appetite is speedy. In one patient of the service in particular, this phenomenon was as remarkable as the dilatation was enormous—so great that an ordinary sound of sixty centimeters in length did not reach the bottom of the stomach. And here is an important point in practice, for it may happen in certain cases, as in this one, that one does not get the desired result because the stomach is not entirely emptied by the sound; from the day when this is accomplished, an amelioration is quickly produced.

Concurrently with these local phenomena, the patient is seen to grow thinner everywhere except in the abdomen, which sometimes deceives the physician. Kussmaul has also noted this fact, that following profuse vomiting, it seems as if all the fluids of the economy disappeared, the parts become dry, and he attributes even to the peculiar state of the nervous system which results from it, the convulsions which often occur in patients of this class. An important remark, also, is that tympanitis very often exists, but that here, contrary to what is seen in ordinary cases, this tympanitis does not bring on dyspnœa. It is because here, at the same time the stomach dilates, it falls; and that in spite of the accumulation of liquid and gas, the diaphragm is not pushed up by the stomach, which is often found at a level considerably below. It is, moreover, to this tympanitis that we

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must attribute the pains, often very sharp, which exist in patients affected with dilatation. M. Sée believes that the pains generally called gastralgic are always due to the distention of the stomach by gases.

Dilatation of the stomach is revealed by a certain number of physical signs which confirm those already indicated. By simple inspection, for example, the prominence of the stomach is seen, but only when the disease is very much advanced. This prominence may be increased by giving the patient an effervescent powder; but one would run the risk of causing it in a healthy subject. The fluctuation, the gurgling and ballottement are signs of much more importance and which permit a certain diagnosis, especially when aided by percussion. The latter gives a dull sound at the inferior part, and a resonant sound at the supérior portion when the patient is standing. Sometimes even a metallic sound is heard if there be much liquid present. A difficulty presents in certain cases; it is that the dilatation may be of the colon and not of the stomach. M. Sée has seen a patient in whom one would suppose, according to all the signs, a dilatation of the stomach existed, while the introduction of the sound into the stomach showed that it had the normal dimensions and contained no fluid. The sound is, indeed, the true means of diagnosis, for it gives certain indications by using certain precautions. After having introduced it, one may prove by aspiration the presence of an entirely abnormal quantity of fluid in the stomach. Further, one can always suppose a dilatation when the length of sound introduced exceeds sixty to seventy centimeters from the incisor teeth. Another procedure consists in searching for the extremity of the sound through the abdominal walls; but such maneuvers are dangerous, and should be absolutely proscribed. There is but one means of remedying this condition of the stomach; it is the direct washing out of the organ with the stomach-pump, or with M. Faucher's apparatus, which M. Sée has used with great success in his service. From one patient a very fœtid liquid was withdrawn, of fæcal odor and of a coffee-and-milk color, and containing gastric juice—a fact contrary to what some authors have asserted, according to whom, this substance is constantly lacking in the secretion of the stomach.

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This fluid was rapidly modified by evacuation with the caoutchouc syphon and washing with alkaline water. This method might, according to M. Sée, be used in many other affections of the stomach, and is, moreover, rendered very easy by the apparatus of M. Faucher, much less dreaded and less painful for the patient than the œsophageal sound and the maneuver which it necessitates for the successive evacuation of fluid in the stomach and injection of the medicated liquid.

MEMBRANOUS ENTERITIS.—(M. Sée, *Journal de Médecine*, Aug., 1880).

The author remarked in one of his lectures, upon a peculiar state of the intestines, very often unknown to the physician, and which is manifested by the expulsion of membranous products of variable form. This has been described under the name of membranous enteritis; but this affection, associated oftenest with constipation, is much more frequent than is supposed, and if the dejecta of certain patients were examined oftener and more attentively than is usually done, one would encounter fragments resembling sometimes the white of egg, or more often still, vermicelli or the débris of teniæ. It is generally under one of these three forms that these products are found and which, upon examination, are found to consist of mucine with a little albumen and fragments of epitheleum, but not containing fibrine, that is to say the inflammatory element is lacking, which indicates that in this case the term enteritis is not justified; it would be more exact to say enterorrhœa, for the affection is very superficial. It is a state of considerable gravity, for the patients often have severe intestinal pains, and discharge sometimes voluminous masses of these products even without going to stool. There are also very often symptoms of obstruction, with considerable tympanism, and very rapid amelioration, when one can remove the obstruction, which should not be done with purgatives, as the patients do not generally support them well. M. Sée considers this condition as very frequent among women. Among them a large number of those complaining of dyspepsia are simply constipated, which is also very frequently accompanied with this membranous enteritis. That which proves

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clearly that in this case it is the bowel and not the stomach which suffers, is that the pains are produced a long time after the meal, and that as soon as regimen, exercise and hygiene have caused the constipation to disappear the health is re-established. Many women regarded as neuropathic, are often only in the same situation. They should be given simple laxatives, such as oil of sweet almonds or flaxseed, and regimen and exercise should be especially insisted upon.

PRUSSIC ACID AND A NEW ALKALOID IN TOBACCO-SMOKE.—Dr. Le Bon terminates with the following conclusions an elaborate paper which he has communicated to the *Journal de Thérapeutique*, September 25th, On the Existence in Tobacco-smoke of Notable Proportions of Prussic Acid, and on the Existence of a New Alkaloid:

1. The principles of tobacco-smoke, which are condensed by cooling in the mouth and lungs or in the apparatus destined to collect them, contain nicotine, carbonate of ammonia, various tarry matters, coloring substances, prussic acid combined with bases, and very odorous and very poisonous aromatic principles (*Medical Times and Gazette*). In the smoke these various substances are found mixed with a large proportion of the vapor of water and of various gaseous compounds, principally the oxide of carbon and carbonic acid.

2. The liquid resulting from the condensation of the preceding substance is endowed with extremely poisonous properties. It suffices to inject very small quantities into the circulatory system of an animal, or to cause it to be respired for some time, to induce death, after the exhibition of various signs of paralysis.

3. The properties of tobacco-smoke, which up to the present time have been attributed solely to nicotine, are also due to prussic-acid and to various aromatic principles, especially an alkaloid, collidine. This is a liquid body of an agreeable and very penetrating odor, the presence of which had been exhibited in the distillation of various organic matters, but the physiological properties of which were entirely unknown. It contributes in great part to giving its odor to tobacco-smoke, and so pene-

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trating is its perfume that but a single drop suffices to impart a very strong odor to a large quantity of water.

4. Collidine is an alkaloid as poisonous as nicotine. The twentieth part of a drop kills a frog rapidly, producing symptoms of paralysis. Only a few instants' breathing it, induce muscular debility and vertigo.

5. It is to the presence of prussic acid and the various aromatic principles that several phenomena are due, such as vertigo, pain in the head and nausea, which are produced by certain tobaccos either poor in nicotine or destitute of it, while other tobaccos rich in nicotine do not produce any analogous effects.

6. The proportion of prussic acid and aromatic principles contained in tobacco smoke varies in different tobaccos, those of Havana and the Levant containing the strongest doses.

7. The black semi-fluid matter which condenses in the interior of pipes and cigar-holders contains all the substances enumerated, and especially large quantities of nicotine. It is extraordinarily poisonous, two or three drops sufficing to kill an animal of small size.

8. The combustion of tobacco destroys only a small part of the nicotine which it contains, so that this is found in great part in the smoke. The proportion susceptible of being absorbed by smokers, and which we have determined in our experiments, varies according to the conditions in which these latter are placed. It is scarcely ever less than fifty centigrams in each hundred grams of tobacco smoked. The quantity of ammonia absorbed at the same time is about equal.

9. Of the different modes of smoking, that in which the amount of nicotine and the various other principles absorbed is greatest, is smoking, so that the smoke is respired; that in which the proportion is least, is smoking the narghil or pipe with a long tube in the open air without respiring the smoke.

10. Nicotine kills animals instantly in doses of two or three drops, but in infinitely smaller doses it causes paralysis and death. A frog introduced into a vessel containing an aqueous solution of nicotine at $\frac{1}{200000}$, or about one drop to a liter of water, succumbs in some hours. The same occurs if the frog be placed under a funnel containing a single drop of nicotine in a roll of

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cotton wool. The vapor disengaged from nicotine while boiling kills animals instantly without leaving them time to move.

11. Tobacco smoke contains about eight liters of oxide of carbon per hundred grams of tobacco burned. Our experiments prove that it is not to this gas that it owes its poisonous properties.

12. Among the most certain effects which the smoke of tobacco determines in the long run in man, may be mentioned visual disturbances, palpitations, tendency to vertigo, and especially diminution of memory.—*Louisville Medical News.*

THE REGULATION OF BODY HEAT.

A Fränkel, in *Centralblatt für die Med. Wissenschaften*, endeavors to solve the question, in what way and through what means, during changes in the production of heat in the body, the changes in the cutaneous circulation which make up the compensation through the giving off of heat, are effected. Heidenhain—as is well known—was the first to prove that the heat of the body is affected by the system of nerves under the sole agency of the circulation, by showing that, under reflex as well as indirect irritation of the medulla oblongata, the temperature of the blood in the large vessels decreases. The acceleration of the blood stream, observed by Heidenhain, has been traced by Ostroumoff to an irritation of the nerve-fibers which dilate the vessels. Over-production of heat in the organism under normal conditions, is dependent upon strong muscular activity and increased food absorption, both of which go hand in hand with increase of production of carbonic acid. The carbonic acid, however, directly irritates the centers located in the medulla oblongata, and consequently the formation of this end-product of the change of matter must be also connected with regulation of heat. As the accumulation of carbonic acid coincides with deficiency of oxygen, the author tried to decide his task by insufflation of differently combined quantities of carbonic acid, oxygen and nitrogen into the lungs of dogs. The insufflation was done with a compressible India-rubber ball, which was connected by a three-branched tube canula, tied into the trachea of the animal, with gas reservoirs, and with the atmospheric air. The

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cutaneous temperament of the paws and that of the rectum were measured. Some days before carrying out these experiments one sciatic nerve was cut through, in order to ascertain, by comparative measurements of both hind-paws, whether the changes in the cutaneous temperature, eventually to be observed under the influence of insufflation, originated from a changed innervation of the vessels remaining in connection with the centers or not. Three series of experiments showed, on the side on which the sciatic nerve was uncut, a rise of temperature; on the paralyzed side a standstill, or even fall of temperature. The inconstancy of the influence of the accumulation of carbonic acid on the irritation of the nerves dilating the vessels, observed by the author in other experiments, he traces back to prolonged restraint of the animals, and the simultaneous decrease of the temperature inside the body, and the continuous influence of the curare. The author is now of opinion that the increased production of carbonic acid in the organism, which occurs in increased temperatures under the influence of muscular activity, as well as of absorption—absorption of food—is one of the factors which regulate the activity of the nervous apparatus that governs the extent of the production of heat.

SURGERY.

TREPHINING OF THE SKULL OF A LUNATIC AFTER OLD HEAD-INJURY—COMPLETE RECOVERY.—From the *British Medical Journal* of October 16, we copy this extraordinary and instructive report:

Under the care of Mr. George E. Wherry, surgeon to the hospital, Samuel S., aged thirty-eight, was at work in August, 1878, when a hammer fell six feet on his head. It did not unsense him; but ever after he felt the effects of the blow. At first it was as if he had "a cold in the head." In January, 1879, he was ill in bed for many weeks. After this when he tried to work he was soon obliged to leave off, was attacked by giddiness, by thrills up his back, and by tingling and numbness in his legs. He tried again to work in August, 1879, one year after the

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injury, but had no idea of what he had to do, and could not fix his mind on anything.

In October, 1879, he came to the hospital complaining of "scrunching" noises in the ears and dragging pains in the vertex, without rest at night; aching pains in both arms and along the insides of the legs, and cold feet. He was admitted into the medical ward, and it was then observed that, of all the symptoms, the most constant and distinct was the "scrunching" feeling in the vertex; and often he placed his fingers over the stellate and adherent cicatrix which marked the hammer-blow. During the last week in 1879 his symptoms were aggravated; he grew irritable and morose, and talked of suicide. The pupil of the left eye was larger, and he had very little sleep.

On January 1, 1880, he made a most determined attempt at suicide by throwing himself over from the staircase at the top of the hospital. His life was saved by the courage of a probationer, Miss Stockburn; but he succeeded in jumping from a lower staircase, and fell fifteen feet, damaging his left ankle. On the following day he was sent to Fullbourn Lunatic Asylum, under the care of Dr. Bacon. The same symptoms continued which have been before described, including the pain in the head in the region of the scar.

He remained in this condition until Dr. Bacon considered that an exploratory operation was to be advised; and accordingly, on March 12, Mr. Wherry removed with the trephine a piece of parietal bone at the seat of injury, and found the dura mater beneath of a deep purple color, but apparently healthy. It bulged, with pulsations, into the wound. The portion of skull removed was three-quarters of an inch in diameter, and had not been fractured. Bleeding vessels were tied with fine hemp thread. Silver wire sutures and carbolized cotton-wool dressings were applied. Ether was given during the operation. The wound healed rapidly and well, and the patient's condition so improved that he went to work in the carpenter's shop attached to the asylum four weeks after the operation. He was discharged from the asylum on June 28, and is now (September 16, 1880) at his regular work as a wood-carver, earning a living for his wife and family.

The operation was undertaken with the hope of removing some

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source of irritation to the brain which might be found in the skull or dura mater beneath the scar. The history of the case, and the symptoms, although they were more general than local, pointed to the lesion as the cause of his lunacy; and although no source of irritation was discovered, the patient recovered rapidly both his bodily and mental powers after the operation of trephining. The reason for this relief to the brain is not easy to explain, but the facts recorded may be of some interest.

A NOVEL MODE OF TREATMENT OF GONORRHEAL OPHTHALMIA.—Mr. George Critchett, F.R.C.S., reports in the *Lancet* a case of gonorrheal ophthalmia in which he had recourse to a heroic and novel method of treatment. Owing to the extreme acuteness and severity of the symptoms, the difficulty in separating the lids or exposing the cornea, and the impossibility of getting any solution into contact with the conjunctival surface, he had relinquished all hope of saving the sight, and felt justified in adopting any treatment, however severe, that promised a ray of hope. He passed a small silver director under the upper lid as far as the edge of the orbit, against which he kept it pressed, and then with a small sharp-pointed bistoury completely divided the lid perpendicularly as far as the margin of the eyebrow. In order to more completely uncover the cornea he separated the two angles of the divided tarsus and fixed them with fine sutures to the skin of the eyebrow. The cornea looked steamy but not ulcerated, and was buried in chemosed conjunctiva. The immediate effect of this proceeding was to diminish the redness and swelling of the lids and conjunctival membrane, and completely to expose the surface. The subsequent treatment consisted in painting over the entire surface of the conjunctiva three times daily with a solution of nitrate of silver, thirty grains to the ounce, and frequently cleansing and syringing with a solution of alum, ten grains to the ounce. A piece of linen moistened in this solution was kept constantly applied to the eye. This plan was continued, with gradual abatement of the symptoms, for a month; a weaker solution was then substituted. At the end of six weeks from the commencement of the treatment the eye had recovered with a perfectly bright, healthy cornea. At the ter-

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mination of another fortnight the child was again placed under the influence of an anæsthetic, and the edges of the divided lids were pared and brought together with fine sutures. Good union occurred, the deformity very slight, and the lid perfectly performs its functions. In the early part of the treatment the other eye was kept carefully closed with strapping so as to prevent any risk of inoculation.—*Medical Record.*

CYSTS OF THE MESENTERY. ABLATION BY GASTROTOMY. RECOVERY. By Drs. MILLARD and TILLAUX. (*Bulletin de l' Académie de Médecine.*)

A man of thirty-one years, on the 25th of May, 1880, previously having enjoyed perfect health, was suddenly in the street seized with a pain in the abdomen, so violent that he could not proceed. After a quarter of an hour he succeeded, still "doubled up" with pain, to reach his home. Did not sleep, nor even remain in bed, but passed the whole night rolling on the floor. Several injections were tried without effect, and an obstinate constipation set in and continued from the commencement of the attack of pain.

May 26. No rest was secured, notwithstanding the anodynes which were administered.

May 27. He was taken to the Hospital Lariboisière. A tumor in the right side of abdomen was discovered, and pronounced to be a floating kidney. The pains now came on at intervals of about ten minutes in the twenty-four hours. They were likened by the patient to a fire in the stomach and bowels.

June 11, he placed himself under care of Dr. M. Millard. The periodic pain was still present, he could not sleep for more than two hours at a time, and even then seated in bed and his head bent on his knees. The horizontal position immediately produced suffocation.

The tumor in the abdomen, on the right side of the umbilicus, was about the size of the head of a fœtus. The patient repeatedly affirmed that he had never noticed it before the attack of pain above referred to. It was round, smooth, very movable and not tender on pressure. After several days Dr. Millard, from the sudden appearance of the difficulty, the abdominal pain and

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persistent constipation, diagnosed chronic invagination of the intestine.

The treatment adopted was the use of the constant current, massage of the abdominal region, enemas of various kinds. No benefit followed; the pains were just as severe; the patient could eat nothing, and for forty days had not had a passage of the bowels without the aid of an injection.

He was then transferred to the service of Dr. Tillaux, and although he got a little better for a few days, the same pains recurred, and the patient demanded some operation for his relief.

July 3. Gastrotomy was performed by Dr. Tillaux, in the presence of Drs. Millard, Féréol and Peyrol, the object being to disinvaginate, if possible, if not, to cut out and apply sutures.

The abdomen being well opened we discovered, instead of invagination, a tumor of the mesentery.

The notes taken by the interne are as follows:

Anæsthesia by chloroform; the abdominal walls shaven and washed with 20 per cent. of carbolic acid. The incision, in median line, about fifteen centimeters; not much hæmorrhage. The peritoneum taken up with a forceps and opened. Abdominal cavity explored with the hand. Incision, increased with a scissors five or six centimeters, allowed a round, smooth tumor about the size of the head of a fœtus to escape. It was situated in the mesentery, and not adherent to the intestines. It was red and vascular on the surface.

Small trocar inserted, but no discharge until the trocar was withdrawn, when a jet of yellowish, creamy fluid appeared. The intestines were protected with warm napkins and the tumor incised, and the whole of the creamy fluid removed. The pedicle was then ligatured with seven pieces of catgut, the walls cut off with scissors and returned to the abdomen. The blood was removed from the abdomen with a sponge, and sutures embracing the entire thickness of the abdominal walls were inserted to close the wounds. Lister's dressing applied.

During the day of operation two hypodermic injections of morphia. No further pain, no vomiting. Slept several hours at a time, and smoked his pipe.

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July 4. Skin moist, normal facial expression, pulse 120; temperature, morning, 38.2; evening, 38.8.

The remaining part of the notes do not differ from the general reports on gastrotomy.

August 1, the patient was well, and on the 17th presented himself before the Académie de Médecine when the report was read.

RARE FORM OF DIFFUSE PHLEGMON.—(M. Broca, *Journal de Médecine*, p. 351. Aug., 1880).

A man of forty entered the service at Necker Hospital with a diffuse phlegmon of the arm of a peculiar form, as well because of its etiology as its special aspect. This man had received no blow, wound or injury of any kind, but several days previous had felt a pretty sharp pain in the back of his left hand. The affection seemed to have begun deep in the tissues and spontaneously. The only cause to which it could be imputed was an excess of work which consisted in lifting pieces of metal. Now an excess of this kind may readily bring on inflammation of that sort of serous sac, which covers the extensor tendons at their lower extremities; this sac presents no regularity; it is rather loose cellular tissue than a true serous membrane, but one may nevertheless compare what has happened to what is produced in the majority of phlegmons of the arm. In this case indeed, the inflammation is nearly always due to a solution of continuity of the skin complicated with angioleucitis, or to a contusion and inflammation of the serous sac of the olecranon; now here it is still a serous membrane of a peculiar nature, which has been the point of departure of the trouble, and under the influence of an injury less frequent than the others. There has been from the beginning, redness and swelling of the back of the hand; this extended to the forearm and has made a very threatening progress toward the arm. In this part the swelling had assumed as regards its form a very remarkable character; the swelling was circular and had extended upward around the arm like a muff, limited brusquely as by a ligature. This character of muff-like swelling which has been well described by Chassaignac, has been especially observed

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in the diffuse periostitic phlegmons of limbs with a single bone. It may, however, show itself under other conditions, and is recognized by the fact that immediately above it the form of the limb is not altered. The skin is not red, and the œdema presents the aspect of that which is encountered as the result of profound compressions.

In the patient thus attacked, the general condition is grave, and there are, moreover, formidable local accidents to be feared. If the disease is to be left to itself, at the end of 24 hours, the muff would have reached the shoulder and intervention would perhaps be too late. Gangrene is imminent, and not only the skin would be sphacelated, but also the entire member would be in such a state as to require disarticulation of the shoulder. To remedy such a situation there are no other means than incisions. A single one is sufficient, as in the present case, when it is seen to allow the ready escape of the fluids which infiltrate the parts, and diminishes the tension. If not, several incisions should be made. The incisions always bleed a good deal because the vessels, fixed by adhesions, do not contract. Therefore one should carefully watch the escape of blood which speedily becomes excessive and might compromise the life of the patient.

DIASTASIS OF THE FOOT.—(M. Broca, *Journal de Médecine*, p. 352, Aug., 1880.)

The peculiar anatomical conditions of the foot are such that injuries may produce lesions of a somewhat special nature. M. Broca had in his service a man who had been hurt in attempting to stop a runaway horse. At first the swelling did not allow detection of anything except mobility without crepitation, but at the end of some days, he was able to determine the lesion in a more precise manner, and found the same symptom still more clearly marked; nearly always abnormal mobility without crepitation indicates the existence of an articular lesion; still the symptom may be observed in fractures of the metatarsals, and is precisely what renders the differential diagnosis difficult. In this case it was easy to see that the mobility existed between the first cuneiform and the first metatarsal; to find the exact seat of

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this articulation, there is one point important to remember; it is that it is found precisely at the middle of the internal border of the foot. This point, indicated by Blandin, may be very useful in operative medicine, for the swelling may easily cause others to disappear. In this case then it was exactly at this point that the mobility was located; there was a displacement vertically causing an elevation of about half a centimeter (1-5 inch).

To explain this displacement we must admit, as a consequence, the rupture of the ligaments, and it is this constitutes diastasis, properly speaking, a more considerable lesion than simple sprain, since there is displacement, and less than dislocation since the displacement is not maintained. Immobilization and repose are the only means to be employed in such lesions, which ordinarily heal quicker than a fracture in the same region. That is the principal interest there is in establishing a precise diagnosis.

GYNÆCOLOGY.

ON INFLAMMATION OF THE VULVO-VAGINAL GLAND.—Martineau. (*France Médicale*, July 21, 1880).

The vulvo-vaginal glands or glands of Bartholin, two in number, are found on each side of the vulva, in a triangular space bounded by the vagina within, the rectum behind and the ascending branch of the ischium without; they correspond to the inferior segment of the labium majus and their excretory duct opens without the hymen or its débris, the carunculæ myrtiformes in the furrow which separates them from the labia minora at the junction of the lower fourth with the upper three-fourths of the vulvar ring.

This acinous gland may become inflamed, as well as its excretory duct, under the influence of the causes we are about to study, and there results therefrom sometimes a painful infirmity to the woman on account of the persistence of fistulæ. The history of this inflammation has been traced with a master's hand by Huguier, who had but one fault, that of dividing his subject

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without measure, of distinguishing, notably, stages which are only degrees of the inflammation. However, his description has never been surpassed, and, following the example of my predecessors, I shall frequently borrow from him.

This affection is especially observed between 17 and 30 years; it is very rare before puberty, and it is equally unfrequent in old women. Among 37 cases which have presented themselves during my service during a space of three years, I have found that 35 were between 16 and 23 years, one of 30 and one of 42 years. It is then, as seen, an affection belonging to the genital and sexual period of women. It shows itself when the physiological functions appear. The causes therefore, are generally sexual excesses, disproportion of the genital organs, menstruation, contagious affections, such as gonorrhœa of the vulva or vagina, traumatic injuries of the genital organs, rape, difficult defloration, repeated masturbation, saphism and friction of the vulva by the use of sewing machines.

Thus in the 37 cases of my service about a dozen cases were caused by abuse of coitus; I have observed several in my practice, and there is no physician who has not had an opportunity of seeing it in his private practice.

Among all these cases I will cite the two following:

The first was the case of a young woman of 22, who, meeting her lover, from whom she had been separated during the siege of Paris during the commune in 1870–71, submitted to his embraces nine times in one night. There followed from it an abscess of the left vulvo-vaginal gland, for which she sought my advice. The cure was complete at the end of eight days.

The second case was that of a young woman of 25 who lived with her parents and only saw her lover evenings. One evening between the hours of 8 and 11 coitus was repeated seven times. Two days after there was slight itching of the labium majus, then smarting and swelling; the patient entered the hospital and I found an abscess of left vulva-vaginal gland, which healed at the end of eight days.

These are not isolated cases. The gynæcologists mention several and I doubt not physicians have occasion to see them in their practice, especially in young brides, where to excessive coi-

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tus must be added, difficulty of defloration and the fatigue of the bridal trip. A. Tardieu observed a case as the result of a rape; he cites a case in a girl of sixteen who was obliged to submit to the repeated assaults of her ravisher at least twenty times in less than eight days.

Various explanations have been given of the pathogenesis of this affection. Huguier thinks that in these cases the inflammation of the gland is the consequence of the functional superactivity of the gland excited by the voluptuous sensations of the sexual act; also, he admits that it is produced without this act, as by the act of masturbation, and the reading of erotic books. At first, he says, there is only a hypersecretion of the glandular fluid, then the fluid becomes cloudy, and soon after clearly purulent; the gland, which is functionally unusually active, swells and inflames. Other authors think that the immediate cause is the friction of the male organ against the gland. It is to this cause, in my opinion, that we must attribute the inflammation of the gland. Indeed there is an attrition, a traumatic injury, and this is all the more intense where there is a disproportion of the organs. It is notably to this cause that we must attribute the inflammation of the gland which comes on after the first sexual act, when the connection is difficult and painful. The following case is a striking example.

In June, 1877, a young girl of seventeen years entered ward Saint Alexis for an abscess of the left vulvo vaginal gland. A first coitus had taken place six months before, but it had been incomplete and very painful; a second attempt, followed by success, but at the price of great suffering, had been tried eight days before the patient entered the hospital. Now, on being interrogated about the defloration, she reports that the penis of her lover was enormous. The cure took place eight days after, by the spontaneous opening of the abscess.

A fact which corroborates this opinion is that the glandular inflammation is seated especially on the side where the friction of the penis is most felt. Is it an effect of the position taken by the woman or by the man? Is it from some other cause? It is always the case that most of my patients complain spontaneously of this sensation of friction being stronger on one side than

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the other. I will add that the abscess is ordinarily produced on the left side; now it is, in fact, on this side that the friction of the penis is the most acutely felt during the sexual act. Is it because it corresponds to the right side of the man who has an exaggerated tendency to lean to this side? I do not know. I limit myself to stating this fact for your meditation, only insisting upon the fact of development of the abscess upon the side where there is the most friction. I will add that in most of my patients the voluptuous spasm invoked by Huguier as the cause of the inflammation, was absolutely wanting.

In the cases which recognize masturbation for their cause, it is still repeated friction with the hand, with the penis, the attrition produced by pressure of the thighs, the traumatism consequently, much more than the voluptuous excitation admitted by Huguier. The traumatism of manualization is notably evident in the following case:

It is the case of a young woman of twenty-one years, who entered Ward St. Alexis in October, 1879, for an abscess of the left vulvo-vaginal gland developed in consequence of handling on several occasions by her lover. This patient was aware that the friction was not solely of the clitoris, but also of the left side of the vulva. Moreover it is clearly to a traumatic cause that this glandular inflammation must be attributed, for in girls before puberty, in whom the vulvo-vaginal gland has not yet attained its developments, it is not seen. It is even rarely observed in adult women who are addicted to excessive masturbation. Thus, among our patients who so often present those characteristic deformities of masturbation, which I have taught you to recognize, abscess is relatively rare, notwithstanding the frequence of voluptuous sensations. I reject then the explanation of Huguier and accept the more direct influence of traumatism. At the most the repeated functional excitement of the gland might constitute a predisposition. I reject equally the opinion of M. A. Guérin, who thinks that coitus frequently repeated without reaching the final spasm produces a hypersecretion and a hypertrophy of the gland which may end in inflammation. Although I carefully question my patients on this point, which interests me especially for the pathogenisis of constitutional metritis, I have

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never found the slightest connection between incomplete coitus and inflammation of the vulvo-vaginal gland. One traumatic cause, in some sort professional, of inflammation of the gland of Bartholin, is the use of the sewing machine. It was the cause in the case of a young woman of twenty-four, who entered September, 1877, for an abscess of the left vulvo-vaginal gland, occurring after ten hours' continuous use of the sewing machine daily for a week.

By the side of these traumatic cases is ranged an order of causes of which the etiologic importance is considerable. I speak of vulvo-vaginal gonorrhœa. Of the 37 cases in my service, in 25 the inflammation was due to gonorrhœa. It is generally located on one side only, being on both sides in only two cases. In fact, gonorrhœa has a predilection quite peculiar for the vulvo-vaginal gland; it settles and in some sort remains there. It is well, gentlemen, to be forewarned of this seat of gonorrhœa in women, for not only may it escape detection and become a cause of contagion, but it is the source of frequent recurrences by auto-inoculation. This localization of the specific inflammation explains the important rôle which it plays in development of abscess of the vulvo-vaginal gland, at the same time that it explains the fact, which is indeed not common, of abscess in both of these glands.

Simple vulvitis sometimes gives rise to this glandular inflammation. It is especially the case when it is of a constitutional nature. Otherwise it is only exceptionally that it gives rise to it; a traumatic cause may always be suspected.

In terminating this etiologic study, I should call your attention a moment to the relations which exist between the development of inflammation of the vulvo-vaginal gland and menstruation. Thus, in three of my patients, the inflammation was developed during the menstrual period.

The first of these patients had had twenty abscesses of the vulvo-vaginal gland, all coming on at the menstrual period. The second had frequently had abscesses at the menstrual period, but was uncertain as to the number, while the third entered with an abscess for the first time at the menstrual period. It appears

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then that the courses constitute a predisposition to abscess or at least favor recurrences of an inflammation imperfectly cured.

You have without doubt, gentlemen, been struck by the fact that the abscess is seated more frequently on the left than on the right. Thus in our thirty-seven cases twenty-three were on the left side, twelve on the right and two on both sides at the same time. Why this predilection for the left side? I avow that in the presen state of the science, apart perhaps from certain traumatic cases, I cannot give an explanation applicable to all cases.

Let us pass now to the study of the symptoms. At first slight heat is felt, mild pruritus and moisture of the vulva. If the glands are palpated, one is felt to be more prominent than the other; at the same time the palpation provokes a slight pain and reveals a little stringy mucus which has already become somewhat cloudy by the presence of pus globules. The next day and the following days these symptoms increase; the pain becomes very sharp, examination locally reveals between the small lip, which is pushed inward, and the greater lip, which is pushed outward, a small hot tumor, tense and painful, which may acquire the size of a small pear, and which obliterates the vulvar orifice within. This tumor is pear-shaped; it is more prominent inward than outward, more below than above, and corresponds with the inferior segment of the greater lip; of which the upper portion undergoes no change. The corresponding portion of the smaller lip is tense and smooth, as well as the carunculæ myrtiformes. By palpation we recognize that this tumor is painful, rounded, limited, more or less resisting or fluctuating, according to the degree of inflammation. The mucous membrane is red, hyperæmic, sometimes violaceous, shining and tense over the tumor.

At the end of some days, fluctuation becomes clearly marked and the abscess opens spontaneously, to the great comfort of the patient, generally upon the mucous membrane in the vicinity of the orifice of the excretory canal or in the canal itself, from which the pus is seen to flow upon pressure. The pus is creamy, inodorous, sometimes mixed with blood. When there is at the same time purulent gonorrhœal vaginitis, the pus exhales sometimes a fetid, nauseous odor. There occurs then what is seen in purulent collections, developed in the vicinity of natural cavities,

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such as the intestinal tube—the pus takes by a sort of osmosis the putrid odor of the gases and matters contained in these cavities; the same here, the pus of the abscess borrows from that of the vagina its special nauseous odor.

The evolution of the inflammation of the vulvo-vaginal gland is rapid: in eight or ten days the cure is generally complete. Induration of the glandular tissue often remains; the abscess then re-forms, especially at the menstrual epoch; M. Gallard has seen several examples of it. In other cases, the opening remains fistulous, and this constant purulent discharge becomes a cause of hypochondria for the woman, and a port of entry for gonorrhœa and syphilis. The prognosis is not then absolutely favorable, and there may be occasion to resort to a surgical interference.

The diagnosis is generally easy. This pyriform tumor, situated at the entrance of the vulvar ring, between the labium majus, which it pushes outward, and the labium minus, which it flattens within, clearly detached from the neighboring parts and leaving intact the superior segment of the vulva, cannot be confounded with a stercoral abscess, with a presecto-vulvar abscess, nor with a purulent collection, proceeding from caries of the ischium. One will not confound this abscess with abscess of the labium majus. In fact, phlegmon of the greater lip is seated at the external portion of the vulva; it projects outward, not inward, like abscess of the vulvo-vaginal gland; finally, while the latter is habitually circumscribed and unilateral, phlegmon often becomes general, extending to the labia minora, the clitoris, and even, according to Huguier, to the mons veneris.

It is more difficult to diagnose between abscess and a cyst of the excretory duct. In both cases we find, on one side of the vulva, a globular tumor of limited extent, springing from the interior of the vulvar ring, and pushing the large lip outward; but in case of cyst, it is smaller, indolent, without reactionary and inflammatory phenomena; its greater diameter is directed according to the transverse direction of the excretory duct, and pressure causes the escape of a colorless fluid, slightly viscous but not purulent.

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The pathogenic diagnosis is important, because it enables the physician to take measures to prevent a return of the affection.

The therapeutics of inflammation of the vulvo-vaginal gland is very simple. At the beginning, emollients, poultices of fecula, bran or starch baths. Flax-seed meal should not be used, as it becomes rancid, and irritates the vulvar mucous membrane. The patient should be kept in bed. When the abscess is formed, should we await its spontaneous opening or use the bistoury? M. A. Guérin has studied this question, and I fully agree with his conclusions. Fistulas are much more common when one hastens to open the abscess; it is much better to wait until it opens spontaneously through the mucous membrane or through the excretory canal. It generally opens in the nympho-labial furrow, and the cure is speedy. This is the plan I generally follow. I advise you, then, not to interfere, especially if the abscess is due to gonorrhœa. Still, when the pain is too severe, you may operate to relieve the suffering of the patient. In this case use the lancet or bistoury, and open the abscess in the nympho-labial furrow, near the orifice of the excretory duct of the gland. M. Gallard has recourse to a large incision, which he prolongs to the fourchette, in order to avoid the formation of purulent foci. In all cases it is best to place a piece of charpie in the wound to prevent too rapid union. If there exists a tendency to formation of a fistula, it is best to cauterize the surface of the focus with the crayon of nitrate of silver. In certain cases this practice is insufficient; the abscess is constantly reproduced, and becomes a real infirmity; it is then necessary to resort to excision of the gland. For this an incision is made in the nympho-labial fold, then separate the lips of the wound and cautiously dissect out the gland; when it is well separated from the surrounding parts, remove with the bistoury or scissors. The arteries should be carefully ligated, or they may bleed profusely, according to M. A. Guerin. As a dressing, a piece of charpie, saturated with a one per cent. solution of chloral, or a one-tenth per cent. solution of carbolic acid, should be laid over the wound.

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SIMPLE AND FOLLICULAR VULVITIS.—(M. Gallard, *Journ. de Méd.*, p. 355, August, 1880.)

In a clinical lecture at La Pitié. the author said that the inflammations of the vulva were of two different forms—simple vulvitis and follicular vulvitis. Simple vulvitis is encountered much more frequently in little girls than in women, due, probably, to the fact that the former are not so cleanly in their habits as the latter; moreover, there sometimes occurs in them a true catarrhal inflammation, connected in certain cases with dentition. But in the child a medico-legal question is often raised, and one is frequently called to decide whether a vulvitis is of traumatic or spontaneous origin. Here it is important to recall a preliminary fact; it is that up to the age of five or six years, the vulva is much more prominent than in women, which might easily cause one to believe swelling to be present, when in reality there is none. This cause of error being known, we may admit, in a general way, that in vulvitis of traumatic origin it is very rarely that one does not find upon the genital parts, between the labia majora, or the fourchette, or even on the internal surface of the thighs, traces of contusion, or abrasions of such a nature as to cause us to recognize the wounds and injuries committed. In general, also, traumatic vulvitis is more circumscribed, confined to the vulva or meatus, and unequally distributed upon the parts affected. As to whether the discharge is simple or virulent, it is a question almost impossible to answer upon a first examination; it is only by the rapid course of the malady, which disappears rapidly if it be of simple traumatic origin, but which, on the contrary, persists a longer time if it is at the same time of gonorrhœal origin, that one can be positive on this subject. All these inflammations, however, whether they depend upon uncleanliness, fatigue or a true traumatism, disappear ordinarily very quickly under the influence of rest, emollients and appropriate baths, and these are the only means necessary for their cure.

By the side of this general inflammation is to be placed follicular vulvitis, in which the inflammation is localized, sometimes in the sebaceous glands, sometimes in the hair follicles. At the beginning, it is only manifested by slight elevations situated, principally, upon the labia majora, accompanied by swelling and

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intense itching, then these small elevations rapidly increase in size and are transformed into small ulcerations which may either cicatrize very rapidly or remain ulcerated for a long time. It is at this period especially that diagnosis presents difficulties, but there is one important fact to be remembered; it is that one may always, by the side of these ulcerations, encounter follicles in the first stage of induration, forming small pimples easily recognized. It is principally on this character that is based the diagnosis between herpes, as well as the soft and hard chancres. It may happen, also, that in the latter case inoculation of syphilis takes place in these numereus ulcerations, and there results a multiplicity of chancres entirely abnormal.

This affection also arises from accumulation of the products of secretion, from the excitement produced by menstruation, and sometimes by scratching provoked by the presence of pediculi. Hence all irritating means, such as toilet vinegars and cosmetics, should be proscribed, and either alkaline substances or emollients be used.

OBSTETRICS.

A CASE OF SPONTANEOUS VERSION.—S. Lachapelle. (*L'Union Méd. de Can.*, p. 342, Aug. 1880.)

The author was called to attend a woman at term whose former labors had been natural and prompt. Examination showed the bag of waters broken, presentation of the vertex with occiput to the left sacro-iliac articulation, pelvis large, and considerable dilatation of the os. The bed was prepared and a second examination made: a strong pain, occiput to the sacrum. At the end of ten minutes a violent pain was felt by the woman, but without effect, upon the head, which did not advance. A few moments after, another pain so serious, that the head having almost completely passed the neck of the womb and resting upon the floor of the pelvis, I introduced the finger into the rectum, according to an old custom, to aid a prompt disengagement of the head. Suspension of pain; here I announced to the patient that the next pain would deliver her; another pain, no advancement, but the head retired rather. I awaited a new contraction, which

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came soon, and examination showed still greater receding of the head. Some minutes of repose, then a new contraction coming on, I examined, and my hand encountered the cord at the left descending *en masse;* then, more to the right, a foot, and to the extreme right, opposite the iliac crest, the head. To hesitate longer appeared to me to be dangerous, and seizing the foot, I effected the version without trouble, and the labor was soon terminated. Fearing a too strong contraction of the neck, I at once sought for the placenta, which I had great trouble in extracting on account of the resistance of the neck. There was grave hemorrhage, which, however, was not followed by any grave secondary complication.

Such is the case in all its nakedness, for though not complete, I have no doubt that it would have been if I had not interfered. What seems remarkable is, not the spontaneous version itself, for that must be admitted, but the spontaneous version after escape of the amniotic fluid, which many authors deny.

I avow, without shame, that I had not foreseen such a thing, for I was ignorant of the possibility of it, sharing the opinion of those who deny it. If it had not been for this ignorance on my part, I might have been able to study the course of the pains and prove if there was in this case irregular contraction of the walls of the uterus. It is in this way that spontaneous version must be explained. Cazeaux says: "I am led to believe that irregularity of contractions is not strange in such cases. In certain cases the organ seems not to contract except in a certain part of its extent, the other closing with less force or even remaining completely inert."

THERAPEUTICS.

THERAPEUTIC USE OF IODOFORM.—(*Jour. de Méd.* p. 371, Aug., 1880.)

According to Dr. Lindemann, the balsam of Peru completely masks the odor of iodoform; two parts of the balsam completely neutralize one part of iodoform. The best vehicles are lard,

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glycerine, or better still, vaseline. Here is a formula which the author recommends:

Iodoform	1 part.
Balsam of Peru	3 parts.
Vaseline	8 parts.

He also often prescribes the following:

Iodoform	1 part.
Balsam of Peru	3 parts.
Alcohol, glycerine or collodium	12 parts.

First mix the iodoform and balsam thoroughly, then add the other ingredients.

THE USE OF PURE WATER IN ERECTING BUILDINGS. Dr. Walter Fergus writes, in the *Lancet* of October 9, and certainly his suggestion is well worthy of consideration: In reading your remarks upon the prosecution of the builders who used earth in place of mortar at Edmonton, it occurred to me to mention how important it is to use pure water in mixing mortar, whether for building or for plastering dwelling-houses. Newly-built houses are notoriously apt to prove anything but salubrious to the first inmates. Much of this unhealthiness of new houses may be owing to the use of foul and polluted water for making the mortar.

A NEW and apparently a most valuable method of preserving raw meat, discovered by Prof. Artimini, of Florence, and patented in this country, bids fair to supply a long-felt want and to have an appreciable effect on our markets. According to a report by Profs. Barff and Mills, of Glasgow, and Dr. Stevenson, of Guy's Hospital, meat six months old was found to be perfectly sound and good, the muscular fiber unchanged, and the nutritive properties unimpaired (*Med. Times and Gazette*). The material employed is stated to be less expensive than salt, and not only wholesome, but pleasant to the taste.

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Items.

THE sixth annual meeting of the Indiana, Illinois and Kentucky Tri-State Medical Society will be held at Masonic Temple, Louisville, Ky., on Tuesday, Wednesday, Thursday and Friday, 9th, 10th, 11th and 12th November, 1880. Convenes Tuesday, 9th, at 9 a. m.

Order of Business.—1. Prayer, by the Rev. Jas. P. Boyce; 2. Welcome address, by Mayor J. G. Baxter; 3. Welcome address in behalf of Kentucky, by Gov. Blackburn; 4. Welcome address in behalf of the profession, by Dr. E. R. Palmer; 5. Response. 2 p. m.—6. Report of Committee on Arrangements, by Dr. W. W. Senteny, Louisville; 7. Report of Secretary and the Committee on Publication, by Dr. G. W. Burton, Mitchell, Ind.; 8. Report of Treasurer, by Dr. F. W. Beard, Vincennes, Ind.; 9. Call for volunteer papers; 10. New method of closing amputation stumps by "mattrass sutures," by Dr. A. C. Bernays, St. Louis; 11. Typho-malarial fever, or mongrel hybrid compound fevers, by Dr. Chas. F. Reber, Shelbyville, Ind.; 12. Something in connection with State medicine, by Dr. Thad. M. Stephens, Indianapolis. 7:30 p. m.—President's address, by Dr. H. B. Buck; Microscopic exhibitions, by Dr. J. B. Marvin, of Louisville, and assistants.

Second Day.—Chairman of Sections: Surgery—Dr. J. R. Weist, Richmond, Ind.; Practice of Medicine—Dr. B. M. Griffith, Springfield, Ill.; Obstetrics—Dr. Geo. B. Walker, Evansville, Ind.; Gynæcology—Dr. Ed. W. Jenks, Chicago; Pathology and Microscopy—Dr. J. Gardner, Bedford, Ind.; Ophthalmology—Dr. J. E. Harper, Evansville, Indiana; State Medicine—Dr. Horace Wardner, Anna, Illinois.

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Regular papers.—1. Tubercular cerebral meningitis, by Dr. J. B. Richardson, Louisville; 2. The early manifestations of insanity, by Dr. B. W. Stone, Hopkinsville, Ky.; 3. Insanity, home and asylum treatment compared, by Dr. C. C. Forbes, Louisville; 4. Mediæval medicine, by Dr. H. C. Fairbrother, East St. Louis; 5. Hæmiopia, mechanism of, causation of, the theory of total decussation of fibers of the optic tracts at the chiasma, by Dr. Wm. Dickinson, St. Louis; 6. Embliopia from disuse, by Dr. Williams, of Cincinnati; 7. Architectural hygiene, by Dr. E. W. Gray, Bloomington, Ill.; 8. Treatment of ununited fractures, by Dr. Duncan Eve, Nashville; 9. The histopathology of scarlet fever, by Dr. J. V. Block, Jacksonville, Ill.; 10. Chemistry versus vitality, by Dr. John T. Freeland, Freelandsville, Ind.; 11. Effects of the sulphate of quinia during pregnancy and after delivery, by Dr. F. G. Ford, Russellville, Ind.; 12. Investigation of utero-placental circulation, by Dr. Ferdinand Smith, Frankfort, Missouri; 13. The use of atropia sulphate in the collapse of cholera, cholera morbus, and kindred affections, by Dr. S. P. Craik, Stanford, Ky.; 14. What is the matter with my patients? by Dr. A. W. Spain, Poseyville, Ind.; 15. The successful physician, by Dr. W. A. Hunt, Lynnville, Ind.; 16. So called changes in types of disease, by Dr. B. R. Helm, Carlisle, Ind.; 17. Dressing of wounds, by Dr. David Prince, Jacksonville, Ill.; 18. Remarks on the pathology and treatment of epilepsy, by Dr. J. S. Jewell, Chicago; 19. Mind in its relation to the healing art, by Dr. C. H. Spillman, Harrodsburg, Ky.; 20. Thoughts on progressive medicine, by Dr. J. W. Singleton, Paducah, Ky.; 21. Surgical treatment of dysmenorrhœa, by Dr. J. P. Thomas, Pembroke, Ky.; 22. Mind as a therapeutic agent, by Dr. J. J. Speed, Louisville; 23. Early management of infancy, by Dr. J. A. Larrabee, Louisville; 24. Report of cases, by Dr. J. W. Thompson, Paducah, Ky.; 25. Puerperal convulsions, by Dr. W. W. Cleaver, Lebanon, Ky.; 26. Neuralgia of infra- and supra-orbital nerves, by Dr. Thos. F. Rumbold, St. Louis; 27. Arrest of evolution versus maternal impressions, by Dr. Arch. Dickson, Henderson, Ky.; 28. Aid of microscope in diagnosing disease, by Dr. W. S. Ross, Evansville, Ind.; 29. Pernicious fever, by Dr. C. H. Norred,

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Lincoln, Ind.; 30. Conjectures on tactile sensibility, by Dr. W. J. Cole, Blairsville, Ind.; 31. A few cases of rupture of the lungs, by Dr. J. P. Ross, Chicago; 32. Total extirpation of the uterus, by Dr. E. C. Dudley, Chicago, Ill.; 33. Some unusual manifestations of hysteria, by Dr. Edwin Walker, Evansville, Ind.; 34. Cox's operation for impassable stricture, by Dr. A. N. Johnson, Danville, Ky.; 35. Therapeutic value of some of our indigenous plants, by Dr. Lucian McDowell, Flemingsburg, Ky.; 36. Use of forceps in obstetrical practice, by Dr. S. B. Friror, Catlettsburg, Ky.; 37. Wound dressing, by J. H. Letcher, Henderson, Ky.; 38. Contagiousness of phthisis, by Dr. S. M. Letcher, Richmond, Ky.; 39. Ophthalmic therapeutics, by Dr. John Green, St. Louis; 40. The proper management of natural labor, by Dr. A. D. Price, Harrodsburg, Ky.; 41. Questions in lithotrity, by Dr. R. A. Vance, Cincinnati, O.; 42. Typho-malarial fever, by Dr. J. W. Compton, Evansville, Ind.; 43. The dangers in our present educational system, by Dr. W. W. Blair, Princeton, Ind.; 44. Ovarian tumors, by Dr. Ed. Borck, St. Louis; 45. Pyelitis and its relation to Bright's disease, by Dr. I. N. Danforth, Chicago; 46. Diseases of the eye in connection with general diseases, by Dr. W. W. Cheatham, Louisville, Ky.; 47. Post partum injection of uterine cavity, by Dr. B. J. Day, Evansville, Ind.; 48. Obstetrics, by Dr. Walter Coles, St. Louis; 49. A physician's problems in psychiatry, by Dr. C. H. Hughes, St. Louis; 50, ———, Dr. Ohman Damisnell, St. Louis; 51. Prevention and treatment of mammary abscess, by Dr. W. H. Taylor, Cincinnati, O.; 52. Treatment of diphtheria by quinine inhalations, by Dr. Gustave Zinke, Cincinnati, O.; 53. Non-astringent caustic treatment of conjunctival inflammations, by Dr. W. W. Seely, Cincinnati, O.; 54. Dyspepsia, by Dr. H. Illoway, Cincinnati, O.; 55. Extirpation of parotid gland, by Dr. J. P. Harvey, Grove City, Ill.; 56. ———, W. D. Davis, Cincinnati, O.; 57. Public address, by Dr. Theophilus Parvin, Indianapolis; 58. Porro's method in the Cæsarean operation, by Dr. J. W. McCormick, Bowling Green; 59. Lactation, by Dr. Theophilus Parvin, Indianapolis; 60. Objective points in the treatment of phthisis, by Dr. Wm. Porter, St. Louis; 61. Modus operandi of cod liver oil, by Dr. Samuel Nickels,

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Cincinnati, O.; 62. Treatment of stricture of bulb of the urethra, by Dr. W. H. Ford, St. Louis; 63. Management of children under surgical treatment, by Dr. C. A. Le Boutellier, Cincinnati, O.; 64. Recent investigations in pathology, by Dr. G. H. Hallister, Cincinnati, O.; 65. Color blindness, by Dr. M. F. Coomes, Louisville; 66. "Dr. Tanner," by Dr. J. Hays, Louisville; 67. "Risks of surgical operations," by Dr. J. Hale, Owensboro, Ky. If desirable, the different sections will hold separate meetings in the afternoons.

Officers for 1880.—President, Dr. H. B. Buck, Springfield, Ill.; First Vice President, Dr. S. E. Monford, Princeton, Ind.; Second Vice President, Dr. J. P. Thomas, Pembroke, Ky.; Third Vice President, Dr. T. J. Ford, Russelville, Ill.; Secretary, Dr. G. W. Burton, Mitchell, Ind.; Treasurer, Dr. F. W. Beard, Vincennes, Ind.; Chairman Committee of Arrangements, Dr. W. W. Senteny, Louisville; Chairman Committee on Programme, Dr. W. W. Cheatham, Louisville; Committee on Transportation, Drs. R. O. Cowling, Geo. W. Griffths, and John A. Brady, Louisville; Chairman Committee on Entertainment, Dr. T. P. Satterwhite.

Railroad Rates.—L. & N. and tributaries, three cents a mile each way. Short Line and tributaries, one and one-third fare round trip. L., N. A. & Chicago, one-half fare round trip. Jeffersonville, Madison & Indianapolis, two and one-half cents a mile each way. Ohio & Mississippi, one and one-third fare.

Hotel Rates.—Louisville Hotel, $2.50 per day; Galt House, $2.50 per day; Willard Hotel, $2.00 per day; Alexander's Hotel, $2.00 per day; Fifth Avenue Hotel, $2.00 per day; St. Cloud Hotel, $1.50 per day.

MALARIA IN NEW ENGLAND.—The increase of malarial diseases, especially intermittent fever, in New England, is exciting considerable attention (*Med. and Surg. Reporter*). The Massachusetts State Board of Health, with its accustomed zeal and energy, has taken hold of the subject, and has already collected a mass of facts which is astounding, and confirms to the fullest extent the rumors heretofore prevalent. The form of ague near near Providence, R. I., is said almost to equal the worst forms in the Southern States.

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Obituary.

RESOLUTIONS IN MEMORY OF THEODORE B. CHURCH.

WHEREAS, It has pleased the Supreme Judge of the Universe to call from amongst us our esteemed friend and associate, the late Theodore B. Church, whose early decease was due to his untiring efforts in the exercise of professional services toward those placed under his charge; and

WHEREAS, We have been deprived of the companionship and counsel of our brother student, whose ability and learning, unsullied reputation and high sense of honor, have endeared him to the memory of his associates and made our mutual intercourse pleasant and agreeable; it is highly proper and right that we should show with what feelings of deep regret and sorrow we learned of his untimely death; Therefore

Resolved, That in the early decease of Theodore B. Church, the students of Rush Medical College have lost a useful, wise and good brother; the college a devoted and exemplary member, and the profession one of her most promising sons.

Resolved, That his generous, manly character and studious habits, command our admiration, and his example our earnest following.

Resolved, That to the family of the deceased we tender our heartfelt sympathy in this their time of bereavement and mourning.

Resolved, That his customary seat in the lecture-room be draped with the emblems of sorrow.

Resolved, That a copy of these resolutions be sent to the family of the deceased, and a copy also inserted in the daily papers of Chicago and Rockford, and the medical journals of this city.

C. G. SHIPMAN,
C. E. WINSLOW,
A. GARWOOD,
} *Committee.*

RUSH MEDICAL COLLEGE, Sept. 29, 1880.

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SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Nov. 1 and 15.
West Chicago Medical Society—Mondays, Nov. 8 and 22.
Biological Society—Wednesday, Nov. 3.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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THE

CHICAGO MEDICAL

JOURNAL & EXAMINER.

VOL. XLI.—DECEMBER, 1880.—No. 6.

Original Communications.

ARTICLE I.

GENITAL IRRITATION, TOGETHER WITH SOME REMARKS ON THE HYGIENE OF THE GENITAL ORGANS IN YOUNG CHILDREN.

By ROSWELL PARK, A.M., M.D., Demonstrator of Anatomy, Chicago Medical College, etc. (Read before the Chicago Medical Society, October 18, 1880.)

A few years ago the interest of the general practitioner was aroused by brilliant reports of cases of young children in whom a variety of disorders, apparently of the nervous system, had been diagnosed as reflex phenomena caused by irritation of the genital organs, and which were speedily relieved by operative measures, usually either circumcision or clitoridectomy.

Dr. Sayre, of New York, has done, perhaps, as much as any one to call attention to the advisability of a careful scrutiny as to the condition of the *pars genitalia* of infants and children committed to our professional care. This scrutiny should not cease with a simple examination to see whether there be any phymosis or other abnormality, but, when possible, should be made the

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occasion for a brief but forcible epitome of an extended lecture upon the advantages of, and necessity for, strict cleanliness and common-sense care of the organs. Explicit instructions and even demonstration are required. The amount of ignorance displayed by the average father and mother as to the proper hygeine of the genito-urinary organs of their children is simply astonishing; and the physician who has his patient's interests at heart must do more than simply hint that care and cleanliness are required; he must show exactly what is to be done and watch to be sure that it is done. These are really matters of vital interest, and there is no excuse for false delicacy.

Excluding consideration of vesical calculus, there are in young male children no lesions of the genito-urinary organs which cause such a varied assortment of reflex phenomena as those connected with the prepuce, and which may be mentioned as follows: phymosis pure and simple, preputial stenosis, partial or complete preputial adhesions, and retention of smegma. To this enumeration might be added complications of any or all of these conditions.

The prepuce is always relatively long at birth, but can usually be easily retracted. If retraction be practiced from the outset, and strict cleanliness be observed, all goes well. But let the nurse be ignorant and the medical attendant inattentive and adhesions gradually take place, while the smegma accumulates, and we have then a condition pretty certain to cause mischief *some* time unless remedied.

When the adhesions are quite complete the smegma, after a time, ceases to collect, and there may follow, as a result of pressure, a partial atrophy of the glands which secrete it; while the substance itself may possibly undergo a calcareous degeneration and be noticeable as a concretion beneath the prepuce. This condition, while very seldom met with here, is not infrequent in certain quarters of the globe. In cases where the adhesions are not so complete, or especially where there is such stenosis of the preputial orifice that there occurs a ballooning of the foreskin with each effort at micturition, the retained smegma is never allowed to harden, but is at short intervals macerated in urine, and finally, by its own accumulation and by the deposition of

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urinary salts, the preputial sac becomes filled up with a pulta-ceous debris which may extend it to a remarkable degree.

That such a state of affairs must beget deleterious results is evident. The disorder thus set up at one end of the urinary tract is not always limited to its place of origin, but may cause in succession a balanitis, urethritis and cystitis, until, at last, the kidneys are affected, and then, if not before, the constitution suffers severely. Dr. J. C. Hupp has reported (Trans. Med. Soc. W. Va., 1879) an interesting case of a patient who, at an advanced age, succumbed to a complication of these troubles resulting from a congenital phymosis.

It may be asked how it happens that we find very few cases of phymosis in adults when we have so large a proportion—as I shall show—among children? The answer is that a spirit of investigation or prurient curiosity leads most of our lads to discover that a phymosed condition of the prepuce is not a natural or conventional one, and that the discovery leads to efforts to correct it. Constant efforts to retract the prepuce amount to a rational, gradual dilatation, and, if persisted in, will usually prove successful. Children brought up in towns and cities, or who are sent to public or private schools, very soon either discover for themselves or are taught to recognize any little anomaly in this portion of their anatomy, and the ridicule to which this subjects them among their playfellows leads to arduous and sometimes injurious efforts to correct it. To such an extent is this true, that when I see a young man with a phymosis, I usually find that he was brought up apart from other children.

There cannot be the slightest doubt that the irritation of the retained smegma, of partial or complete adhesions, or of a contracted orifice to the foreskin, is the frequent inciting cause not only of the various nervous phenomena to which general attention has been drawn, but also of masturbation and some forms of hysteria. Indeed, more than one boy has confided to me that his habits of self-abuse dated from the time when he instituted efforts to make his prepuce resemble those of his comrades.

Another inquiry which suggests itself is this: If this condition of affairs is capable of engendering so much mischief, and if it is so common, why do we not hear of more cases of serious

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nervous disturbance caused by it? I would answer such a question by saying that, in the first place, I think that, as a correct explanation of some cases of nervous disorder in children, it is still overlooked; and, in the second place, that we are inclined to forget to what an extent the impressionability of different children may vary. If genital irritation may cause convulsions in one case, paralysis in a second, or club-foot in a third, it may also cause urticaria, or indigestion, or diarrhœa, or incontinence of urine in yet others. In fact, I shall briefly report two cases of chronic diarrhœa in little boys, which resisted all medication, but were speedily relieved by removing the irritating causes about the genitals. And in a number of cases I have broken up the disgusting habit of wetting the bed at night by freeing the glans from some adhesions between it and the prepuce.

Every recent writer has called attention to the prominence of complete or partial phymosis in the etiology of nocturnal incontinence, and an enthusiast, realizing how common the condition is, may be deluded into the idea that all he has to do to break up the habit at once is merely to release the foreskin by simple and appropriate measures. But, in the majority of cases, said enthusiast will be deceived, because he loses sight of the fact that the habit has become firmly established by the time he is called upon for advice, and by looking for immediate relief he displays an overweening impatience. Let the operation be performed by all means, if indicated, and then, if needed, belladonna and strychnia with other nerve tonics and sedatives may be used; and then, too, proper moral suasion may be resorted to, with prospect of success.

If, beside asking the above two questions, one shall persist still in pointing out numerous individuals who have reached adult life with a prepuce in one of the conditions described, and who have never suffered in consequence, and if he shall argue upon these premises that undue prominence is given to the subject, I can still reply that many—though perhaps not *as* many—go through life with much more serious congenital variations or anomalies whose existence is never heard from or detected; and that the mere

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fact so many do escape serious trouble does not necessarily imply that others may not suffer severely, as they unquestionably do.

I have not been able to find any literature which would give any idea as to the comparative immunity from preputial lesions which children may enjoy, or as to the percentage of cases in which we may expect to find some deviation. Having surgical supervision of an institution in which over one hundred children are cared for constantly, I concluded to investigate for myself. By the opportunity thus afforded me, and from my notes of dispensary and private practice, I find that I have recorded the condition of the prepuce in one hundred and fifty-three boys under nine years of age. For convenience I have classified them as follows:

	Number.	Percentage.
I. Cases permitting easy and perfect retraction of the prepuce.....	30	19.62
II. Cases of slight or partial adhesion, with little or no retained smegma.....	48	31.37
III. Cases of complete or nearly complete adhesion, without stenosis, but with retained smegma, of course.....	36	23.53
IV. Cases of preputial stenosis, in which retraction was out of the question, and adhesions only to be detected by using a probe.....	39	25.48
	153	100.00

It will be understood that the ages of those examined varied within considerable limits—some of them being infants at whose accouchment I had assisted; and still I think that my percentages will not be found far out of the way. Assuming that they represent the general average, we glean the information that only one young boy in five can easily and completely retract the prepuce. Observation confined entirely to children in the higher, or those of the lower, walks of life, may seem to make this statement incorrect; but mine is an average of all cases.

Further than this, and lending additional plausibility to my remarks in the first part of this paper, I found that of the *infants* I examined, nearly all who did not belong to Class I, did

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belong to Class IV; in fact they were about evenly divided between the two classes. This would seem to indicate that we must consider adhesions among the *acquired* forms of phymosis, so to speak. I have already remarked that the prepuce is usually long at birth. But we may draw a legitimate inference from the above that if properly directed efforts are made to date from the time when the infant receives its first bath, there would then be little difficulty in properly exposing the glans and cleaning the parts every day, and no excuse for negligence about the matter.

If preputial stenosis really do exist, the prepuce should be either slit along the dorsum, taking care to go back of the corona, the corners well rounded off and fine interrupted sutures used; or the ordinary operation of circumcision may be made. In either case any tendency to adhesion of raw surfaces may be prevented by the use of oil or some light dressing, while for the outside dressing cold water is perhaps the best.

Where simple adhesions exist a little judicious force and a little dissection by scratching with the point of a fine probe or knitting needle will be all-sufficient. For this anæsthetics are not required; for incision and stitching it is well to use them. It is well to do whatever is done as early in life as possible, for, even if nothing worse happens, stunted development of the parts may be the result of the delay.

In a number of the lads included in my second and third classes I liberated the prepuce as just described, with more or less advantage in many cases. In some it relieved the nocturnal enuresis; others were taught to regard it as a punishment for their incipient tendency to habits of self abuse; and I am happy to say in most of these latter cases it proved effectual. And in many of the cases of Class IV, wherever it was feasible, I either slit up the dorsum, or circumcised.

Paralysis and convulsions are the lesions most commonly referred to genital irritation. I have never happened to see a case of paralysis in infant or boy which I could so refer; but I have not only seen but relieved by appropriate measures infantile convulsions, general incoördination of the movements of the lower extremities, incontinence of urine, excessive irritability and nerv-

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ousness, a condition of frequent semi-priapism, indigestion accompanied by a sympathetic papular eruption, chronic diarrhœa, and stunted development of the genitals; all of which could only be ascribed, after careful study, to irritation caused by one or other of the congenital or acquired forms of the lesions I have mentioned.

I doubt whether pronounced imbecility can be regarded as a reflex phenomenon of this kind; but I am sure the mental condition of all these children was improved *pari passu* with their general health. In the *N. Y. Med. Record*, April 6, 1878, there is an account of a visit made by Dr. Sayre and others to the Idiot Asylum on Randall's Island, during which visit he carefully examined the external genitals of sixty-seven of the children, operating on a number of them. While he undoubtedly benefited some of them in a way easily recognized, there is no evidence going to show that any genital lesions from which they happened to be suffering had a causative relation to their imbecility.

Of the one hundred and fifty-three little boys whom I examined, a number suffered from inguinal hernia; just *how* many I am unable to state, but, I am sure, at least twenty. My attention was not attracted by this coincidence at first so that I did not note my cases, in this respect, as carefully as I should have done. But I am sure the larger proportion of those thus affected were ranked among Class IV in my enumeration. Indeed I have never seen more than one or two children who could be placed in Class I who had any form of rupture. It is not difficult to understand how the muscular effort required to force the urine through a stenosed preputial orifice, when frequently repeated, month after month, should be sufficient to gradually cause a hernial protrusion, particularly if the parts be congenitally weak. Or it may occur before the canal (corresponding to the canal of Nuck, in the female) is completely occluded, and thus cause what is to all intents and purposes a congenital inguinal or scrotal hernia. This seems to me by far the most rational explanation of most if not all of the cases I have seen.

The possibility of diabetes mellitus occurring as the reflex result of phymosis has been broached. While I have seen one case of

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long standing glycosuria in a young man affected with congenital phymosis, I do not feel justified in drawing any conclusions from it, because he declined the operation. At the recent meeting of the American Medical Association (New York, June, 1880), Dr. Maxwell, of Delaware, reported the case of a boy, five years old, suffering from phymosis and diabetes. He circumcised the little patient and all traces of sugar quickly disappeared from the urine. This report was made in the discussion which followed Dr. G. M. Beard's paper on "Phymosis as a Cause of Nervous Symptoms," etc. Dr. Beard detailed a long list of neurasthenic symptoms in addition to those previously mentioned by other writers. These, he said, might be caused or aggravated by phymosis, or the presence of this condition might interfere with their cure. There is a hint thrown out in these last few words of whose truth my own experience has convinced me. It is that while phymosis and allied conditions may not necessarily be active exciting causes of nervous trouble, they may yet be passive obstacles to recovery from general or purely nervous disorders.

Dr. Beard also took the ground that when the nerves seemed exhausted, and the system debilitated, then local irritation might become the cause of nervous symptoms which would not otherwise have developed. He also laid stress on the reminder that immediate or startling results were not to be expected from operative treatment, the justness of which will be obvious to all; and, furthermore, that accessory and supplementary treatment may, at times, be needed. In his own practice out of eighty cases of general and sexual neurasthenia, thirty one—over one-third—had either phymosis or adherent and redundant prepuce. This, moreover, among adults.

In considering this subject one other feature has occurred to me, and that is, the practicability of doing circumcision or some similar operation as a revulsive measure, or with a view of correcting an abnormality and at the same time establishing a temporary but pronounced counter-irritation, in cases not seeming to especially demand it. More than one surgeon and neurologist has advised circumcision in idiots, imbeciles and the insane. Any suggestion to this effect would, however, be swallowed up in the general principle that no boy ought to be allowed to grow up

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with any abnormal condition of the prepuce. If general experience has not already shown the fundamental importance of this principle, the time is not far distant, in my opinion, when it will be clearly shown.

It is not necessary to recapitulate the disadvantages of an abnormal prepuce; they have already been considered at sufficient length. But a very brief reference to the advantage of a normal one may be allowed. In the first place it is undoubtedly the condition intended by nature, and is evidently the standard aimed at, judging from a majority of specimens of adult life. Second, a fertile cause of nervous irritation is avoided. Third, infection from venereal disease is certainly more probable where perfect cleanliness is impossible, and, *per contra*, when the parts can be thoroughly cleaned infection is much less likely to happen. Fourth, if venereal disease do exist, as for example, chancroid or gonorrhœal balanitis, it is of gravity in proportion as its site is concealed; when the diseased portion can be exposed it can be much more satisfactorily treated. Lastly, lack of cleanliness is said to be a predisposing cause of epithelioma.

The more, therefore, we consider the disadvantages of the abnormal condition and the advantages of the normal one, the more particular we should be to give our little patients the benefit of our knowledge. And every parent who has his child's best interest at heart can be soon made to see the reason of it and second the physician's efforts.

I will conclude by a very brief report of two cases referred to in the body of this paper: Two little boys under my care, one three, and the other five years of age, had both suffered for months from chronic diarrhœa. The former, the younger, when but ten months old had been operated on by a New York surgeon of note for the relief of a congenital phymosis. By the neglect of a careless mother he relapsed into as bad a condition as ever, having preputial stenosis and complete adhesions. He was excessively nervous and peevish. Although his diet was restricted his diarrhœa was only partially checked by medicines, never completely relieved. The other lad had a congenital phymosis with complete adhesions. His appetite was ravenous and his food usually passed through but little changed. Medicine

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seemed to do no good. He was emaciated, irritable, and suffered from prolapsus recti.

About the same operation was made in either case, to restore the normal relations of the parts. Both speedily improved in every respect. The former I saw several times, the latter I heard from; and in both the good results seemed permanent.

There are now so many cases of cure of infantile convulsions by circumcision on record, that I do not think it worth while to report any in addition. Nor would I be understood as hinting that phymosis is a common cause of diarrhœa or the other disorders I have mentioned; I simply have introduced these two cases as samples, exemplifying what a variety of lesions genital irritation may produce, and showing the advantage and the necessity of always examining the genital organs of young children, no matter what may be the malady we are called upon to treat.

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ARTICLE II.

OVARIAN CYSTS COMPLICATED WITH HERNIA, HÆMORRHOIDS, PROLAPSUS VAGINÆ AND FIBROID TUMORS OF THE UTERUS—SUCCESSFUL OVARIOTOMY.

(Read before the West Side Chicago Medical Society, May 10th, 1880.) By T. P. SEELEY, A.M., M.D.

The following case, owing to its complications, doubtful diagnosis at first, and the length and variety of treatment tried, seems to justify a somewhat detailed description.

As it is stated by the patient that she has the names of 150 physicians who have visited her during the five years of her suffering, some may recognize an old acquaintance.

Being called to see the patient, Mrs. M. W., in the night of April 21st, 1876, I found her suffering extremely from abdominal pains somewhat intermittent in character.

On inspection, the abdomen was found about the size of the sixth month of pregnancy, somewhat tympanitic and tender. She was suffering also from inflamed hæmorrhoids, which, with

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great constipation of the bowels, had been a source of misery to her for years.

A digital examination revealed a great enlargement and prolapsus of the uterus and inflammation of the os. For immediate relief of her intense suffering, I gave a hypodermic injection of morphia and atropia, and ordered a warm stimulating enema to empty the constipated bowels.

The patient, who was forty years of age, American, of spare build, dark complexion, with a face indicating much energy of character, informed me that she had suffered from painful menstruation from childhood; had been married twice—at twenty-three and twenty-eight years of age—had one living child ten years ago and four abortions since.

In the years of 1872 and 1873 she had several attacks of fever, with severe pains in the left ovarian region, lasting one or two months.

In 1874 and 1875 she suffered very much from menorrhagia, piles and dysuria, and in January of 1876 a hernia was discovered on the right side, she having been under the treatment of several prominent homœopathic and eclectic physicians. The next day, April 22d, the bowels having been thoroughly evacuated, on examination by palpation and percussion, a firm, irregularly rounded tumor, of about the size of the fist, was found just below the umbilicus.

On a vaginal examination, the tumor, which seemed an enlargement of the uterus, was found quite hard and only slightly moveable.

On using the speculum, a small elastic catheter, with stylet, was passed five inches into the uterus, the ordinary sound being prevented from entering by a flexure of the canal. The tumor was diagnosed as a fibroid of the uterus, the diagnosis being afterwards confirmed by several other physicians.

As she objected to hypodermic injections, which were first tried, she took by mouth Squibbs' fluid extract of ergot 15 to 20 drops three times a day.

The bowels were regulated by aperients and diet, and occasional attacks of colic were relieved by warm enemas, antispasmodics, and anodynes. Under this treatment her general health

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was much improved and her size considerably diminished, the circumference at the umbilicus being reduced in three months from 38 to 32 inches.

During my absence at the Centennial exposition she passed into other hands for a time, but the following April returned to me, increased in size and suffering much from hæmorrhoids, constipation and dysuria. The ergot was resumed, with other suitable treatment, including the Faradaic current and a Hodge pessary to support the uterus. Temporary relief was afforded, but the tumor continued to increase, and another developed on the right side. At the time of the meeting of the American Medical Association in this city, in 1877, I invited Dr. E. Cutler, of Boston, who had read a paper giving the favorable results of galvano-puncture in a large number of cases of fibroids, to see the patient with me. As he thought the case favorable for the operation, and the patient readily consented, at my request and in the presence of Drs. Byford, Clarke, and other medical gentlemen he introduced one needle into the tumor but, finding, on a microscopic examination of the fluid, removed by the needle, characteristic ovarian corpuscles, he proceeded no farther. The puncture healed readily, and very little pain or inconvenience resulted from the operation.

As it seemed to me that we had a fibroid of the uterus, as well as an ovarian tumor or two, the continued current of electricity was tried for some time with apparent benefit, and the patient was for some time under the care of specialist electricians.

The 13th of March, 1878, I was again sent for, and found her increased in size and all her old symptoms aggravated, the left tumor being somewhat fluctuating, though still quite tense. The piles were enlarged and very painful, and there was prolapsus of the vagina, with the uterus forming a tumor of the size of the two fists projecting from the labia. Dyspnœa had gradually increased, and several times she had severe attacks of vomiting, ejecting a large quantity of dark fluid and getting temporary relief. Her bowels were irregular, and she was much troubled with colic.

On the 22d of March, with the assistance of Drs. Wm. E. Clarke and C. E. Davis, I used the aspirator, and drew off about

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a quart of fluid, giving temporary relief, followed in a few days by the return of all her distressing symptoms. The patient at length consented to the operation of ovariotomy, and the day was appointed for its performance; but it was postponed on account of the appearance of menstruation, which had been absent several months. At this time her attention was called to the reports in the daily papers of several cases of remarkable cures of ovarian tumors by Dr. E. W. Edwards. As she and her friends were very anxious to try the reputed cure by medicines, which I was informed by Dr. E. consists essentially of the use of large doses of iodide of potassium internally, a plaster of belladonna with iodine applied to the abdomen and the application of a saturated solution of iodine in creosote to the inner surface of the uterus after dilatation with sponge tents; and as he promised a cure in about six weeks, I thought best to give the case entirely into his hands.

The patient was under his treatment for about fifteen months, when she again sent for me in October of 1879. She said that at first, and at times when she could take them, Dr. E.'s medicines reduced her size, but that her stomach was so weak she could not take them constantly, and this was the reason the doctor gave for not curing her. She had also had a prolonged attack of typhus fever (so called), which was another excuse for the failure of the cure.

Her symptoms were all aggravated, and she was much emaciated and weaker.

On measurement I found she had much increased in size, the circumference at the umbilicus having increased from 35 inches on April 20th, 1878, to 43½ inches October 19th, 1879, the distance from the ensiform cartilage to umbilicus, 6½ to 12 inches; umbilicus to symphysis pubis, 6½ to 9 inches: umbilicus to right superior spinous process, from 7½ to 13½ inches; and to the left, 9 to 14½ inches.

Despairing of all other means of relief, she was now fully resolved to have the operation, thinking that she might better die on the operating table, as Dr. Edwards kindly informed her she was sure to do if she submitted to the operation, than by slow torture.

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Although she was suffering from dyspnœa and a slight bronchitis, caused either by a cold or the irritation of the tumor, it was thought unwise to delay the operation.

On the 8th of November, 1879, with the assistance of Drs. Byford, Clarke, Bartlett, Bridge, Danforth and Davis, Dr. E. W. Lee being present, the operation was performed. It occupied about an hour and a half, and was made under a continuous carbolized spray, ether being used for anæsthesia. An exploratory incision was first made midway between the umbilicus and pubis, in the linea alba, and then enlarged to about 9 inches in length, extending from about an inch above the pubis to an inch above the navel. Two large multilocular cysts were found and tapped, and 40 lbs of fluid removed by the trochar. There were extensive adhesions that were separated with the fingers, and a portion of the adherent omentum with vessels was ligated and cut away. The left and largest tumor was first lifted out, and the pedicle, about an inch and a quarter in diameter and three inches in length, was secured by passing a double braided carbolized silk ligature through the center, tying on each side and cutting them off short, the stump of the pedicle being left about an inch in length. The tumor on the right side was treated in the same manner.

Two sub-serous fibroids, about an inch in diameter and an inch and a half in length, were found attached to the fundus of the uterus, but left, as not likely to grow after the removal of both ovaries.

There was very little hæmorrhage. The cavity was carefully washed out with soft sponges, one being left in the cul-de-sac till the wound was nearly closed to absorb as much as possible of the blood and serum. The incision was closed with carbolized silk ligatures, passed with round needles from the inside, and about half an inch apart, pains being taken to have the inner surfaces of the edges of the peritoneum in contact. The last and lower stitch was taken with a common curved, lance-pointed needle, which was passed in at one side and out at the other. I mention this thus particularly, as the stitch was the only one that failed to heal readily, and there was ulceration along its course in the one lip through which the puncture was made from the

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outside. Nearly an inch of space was left between the last stitch and the end of the cut, so that a drainage tube might be inserted if necessary.

Whether it was the character of the puncture, or the less perfect coaptation of this portion of the wound, which prevented its healing and caused the abscess in one lip, and whether the continuous discharge which was kept up by tents contributed to or retarded the final cure, are questions of interest.

The wound was dressed and supported with adhesive straps, carbolized cotton compresses and bandages.

The two tumors, with contents, weighed forty-five pounds. The patient bore the ether and operation well and rallied favorably.

At ten p. m. there was some pain in the abdomen, increased by occasional coughing. The temperature, 100½, pulse, 90, respiration 22. About half a pint of urine was drawn with the catheter. As she was quite thirsty she was allowed to drink frequently small draughts of cold water. Gave 10 minims of Magendie's solution of morphia by hypodermic injection.

Sunday, 9th.—Patient rested well except when disturbed by cough. Temperature, 100½; pulse, 98; respiration, 24. The nurse had used the catheter at 4 a. m., and relieved her of a good quantity of urine. At 10½ the patient vomited, causing considerable pain. A hypodermic injection of 12 minims of Magendie's solution was given. As she had become somewhat accustomed to the morphia during her sickness, rather large doses were thought necessary to allay her pain. At 12½ p. m. she had nausea and vomited. Temperature, 101½; pulse, 130; respiration, 16. Has hiccoughed for a few minutes. 4½ p. m.—Cough troublesome. Temperature, 102; pulse, 120; respiration, 22. ℞. Ammonia muriat, ammoniæ carb, āā ℥j. tincturæ camph., glycerin., syrup. limonis, āā ℥j. Take a teaspoonful every three hours. 11 p. m.—Feels pretty well, but is occasionally disturbed by cough; has taken some milk porridge during the day and the catheter has been used with success every six hours. Temperature, 102; pulse, 128; respiration, 27. Hypodermic injection of 10 minims Magendie's solution. To have beef-tea and milk punch in small quantities.

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November 10th, 9 a. m.—Slept quite well during the night. Temperature, 100½; pulse, 120; respiration, 20; took beef-tea and punch several times; coughed and urinated without catheter at 3 a. m., and very freely with catheter at 8 a. m. She is quite talkative and hopeful this morning and would be very comfortable were it not for the cough. 4½ p. m.—Has taken cough mixture every three hours and has vomited mucus twice. Temperature, 100½; pulse, 112; respiration, 24. 11 p. m.—Cough troublesome, raises considerable mucus after attempts at vomiting. Temperature, 101; pulse, 112; respiration, 22.

November 11th, 10 a. m.—Patient has had much colicky pain for three hours. A warm enema of a solution of common salt being used has just secured a free movement of the bowels, with much flatus and given great relief. Temperature, 100; pulse, 108; respiration, 15. Used 10 min. Magendie's solution. 5½ p. m.—Has been quite comfortable since operation of the bowels. Temperature, 100; pulse, 104; respiration, 18. 10 p. m.—Has taken considerable beef-tea and porridge during the day. Temperature, 102; pulse, 108; respiration, 20.

November 12th, 10 a. m.—Slept most of the time till 4 a. m., then vomited and was quite restless with colicky pain till 5½, when she received a warm saline enema and passed a consistent stool and large amount of flatus. Temperature, 99½, pulse, 104; respiration, 20. 3½ p. m.—Has had considerable pain, another movement of the bowels and passed urine without catheter. Ordered Magendie's solution, 10 min. by mouth, every three hours. 11 p. m.—Quite comfortable, though she had what she calls a sinking spell on waking at 4½ p. m., felt quite faint and hands and feet were cold. Temperature, 100; pulse, 108; respiration, 18. Is to take only sufficient morphia to allay pain and secure rest. Has beef-tea and milk punch as required.

November 13th, 11 a. m.—Patient feeling quite well and hungry; took some bread and butter and tea. Temperature, 99½; pulse, 100: respiration, 16.

Dr. Bartlett coming to use the spray, she was much excited at the idea of an operation and vomited freely, the only time in the last twenty-four hours.

Dressed the wound under the spray, removing part of the

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stitches, union having taken place to a large extent. The wound was looking well, there being only a trace of pus. 11 p. m.—Has urinated without catheter about once in four hours; has quite severe pain. Gave hypodermic injection of 15 minims of Magendie's solution. Temperature, 99; pulse, 96; respiration, 18.

November 14th, 11 a. m.—Has rested well and is in good condition; has taken some toast, etc., and a small piece of beefsteak for breakfast. Little variation of temperature, pulse and respiration.

November 15th, 10 a. m.—Temperature, 99½; pulse, 90; respiration, 18. Has had much colicky pain, of which she was relieved as usual, by a warm saline enema. Removed the remaining sutures without the spray. The parts are united with the exception of about an inch of the lower and superficial portion of the wound. A tent of carbolized lint was inserted for drainage and coaptation effected by compresses and rubber adhesive straps. She continued about the same, her appetite, secretions and rest being quite good, until the 19th, when she had a good deal of pain; the pulse rose to 112; temperature, 101; respiration, 17. A warm enema again secured a good movement and relief.

November 20th, 11 a. m.—Temperature, 100; pulse, 108; respiration, 18. Passed a restless and uncomfortable night. 11 p. m.—Temperature, 101½; pulse, 108; respiration, 19. Rather thin movement of the bowels, without enema; not feeling so well; seems weaker and quite despondent.

Ordered 2½ grains of quinine in capsules every 4 hours. Magendie's solution 10 min. at night.

November 21st, 11 a. m.—Rested fairly. Temperature, 101; pulse, 108; respiration, 18. Feels better. Continue quinine. 10 p. m.—Temperature, 101; pulse, 104; respiration, 19. Magendie's solution 10 min.

November 22d, 11:30 a. m.—Temperature, 101; pulse, 100; respiration, 18. Quite comfortable. Little change in the evening.

November 23d, 12 m.—Temperature, 101½; pulse, 100; respiration, 18. Has had severe colicky pains, only partially removed by enema and movement of the bowels. Magendie's solution 10

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min. was given to allay pain. 10:30 p. m.—Temperature, 102¼; pulse, 108; respiration, 18. Feverish and tossing about. Continue quinine, followed by 15 drops of tincture of chloride of iron every 4 hours; had 10 min. of Magendie's solution at 10 o'clock.

November 24th, 10 a. m., the sixteenth day after the operation.—This morning at 4 o'clock, soon after partly raising to cough and turning to lie on her right side, the patient had a large discharge of thin, dark serum of fæcal odor from the lower part of wound. On compressing the abdomen some more came out. Cleansed and dressed wound as usual.

The patient seemed much relieved by this discharge, and is feeling quite comfortable. Temperature, 98; pulse, 90; respiration, 17. 6:30 p. m.—Temperature, 98; pulse, 84; respiration, 18. Continued quinine and iron.

November 25th, 11 a. m.—Temperature, 97¾; pulse, 80; respiration, 17. The patient is feeling very cheerful and the wound looking well, there being only a small discharge of pus. 11 p. m.—Temperature, 98; pulse, 72; respiration, 17. Has had a large discharge of hardened fæces.

November 26th, 12 m.—Temperature, 98; pulse, 84; respiration, 18. Feeling well. Omit morphia solution, which has been given as needed to control pain. Continue quinine and iron.

November 27th, 11 a. m.—Temperature, 98; pulse, 78; respiration, 18. Syringed abscess with warm carbolized solution, none passing into the cavity of the abdomen. Continue quinine and iron every six hours. 10:30 p. m.—Temperature, 98½; pulse, 82; respiration, 21. This afternoon, after severe pain in the rectum, several injections and hard straining she passed, with the aid of her finger, an enormous mass of hardened fæces, the largest I have ever seen, being at least two inches in diameter.

After recovering from the exhaustion of her fæcal labor she has felt much better. From the excessive hardness of this mass, I think it must have been impacted in the distended colon for months, the thin fæces having passed by the side of it.

November 28th, 11 a. m.—Temperature, 98; pulse, 80, respiration, 16. Took 10 min. Magendie's solution last night, and rested well and feels well this morning. 10 p. m.—Temperature,

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98¼; pulse, 76; respiration, 19. Appetite and secretion good. Continue tonic. The patient continued to improve, the wound gradually closing by granulation.

The hernia was quite troublesome, and required a truss. At one time it came down and became strangulated, and was with some difficulty reduced by Dr. C. E. Davis, who was called in my absence.

In about four weeks after the operation she walked into another room, and has now been doing her work for several months, though it was five months before the wound was entirely healed.

The fibroids attached to the uterus can be distinctly felt through the vagina, and she was troubled with a bearing-down sensation until I used a Hodge pessary, which gives great relief.

ARTICLE III.

NATURAL SELECTION IN DISEASES. By H. D. VALIN, M.D., Chicago.

The conviction and common agreement of natural philosophers and eminent physicians are the evidences on which medical teachings are grounded; but neither law nor revelation should be considered as authorities in medicine.

Two entities are generally recognized in nature, viz., energy and inert matter; these two are called by some animated matter. The course of nature is the movement of inert matter when acted on by force; in other words, the regular progress of natural events. A natural cause, uniformly recurring, and producing similar results each time, on account of the accessory circumstances remaining the same, establishes a natural law; hence in the course of nature there are an indefinite number of such laws.

Natural selection, or the survival of the fittest, means that the organized being best qualified to escape, in a given medium, harmful circumstances, and destruction by the other species, survives in the struggle for life. But it does not mean that the survivor is the best in size, strength, beauty or virtue. This could be simplified by saying that a greater energy or force com-

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ing in conflict with a weaker one destroys it; and rats and bedbugs are instances of some of the fittest animals who survived and multiplied to the greatest extent.

It could not be otherwise in the present constitution of the universe, except through the interference of a superior being; but, for practical purposes in medicine, supernatural interference is generally overlooked in its bearings on life and death. Indeed, all statistics in civilized countries refer diseases to natural causes without exception.

The author of the "Origin of Species," with a majority of later writers on the subject, does not recognize any premeditated results in the events of the world, and claims that the cause being brought to act, the result cannot be a deliberate one, but is necessary.

Human selection is deliberate to a certain extent, and consists in breeding from the choicest domestic animals, and the comparative improvement thus gained, as our perfected breeds of racehorses, merino sheep, etc. But the human species is very little influenced by natural selection as regards their struggle for life with other animals, on account of the great superiority of man over the latter, yet the struggle for life between nations is very great, and a frequent cause of war. Man is less influenced by human selection, because human charity takes a special care of weak individuals, which procreate as the rest. Lycurgus in Lacedemonia is said to have applied this law, through sacrificing the life of many individuals, with a good result. But the present emperor of Germany is said to have failed in his endeavor at raising a regiment of tall men of the age of his son.

Natural selection can be applied in some degree to all organisms, and, consequently, to the bacteria which are supposed to represent each infectious disease. But the spread of these cannot improve mankind; those most exposed, not necessarily the weakest, are mostly attacked. The wider these organisms spread, the greater the destruction of life; and finally, a majority of those attacked recover, often retaining an impaired vitality.

Immunity from infectious organisms is seldom met with. The Algerian sheep, it is true, enjoy such an immunity from splenic fever; and among mankind, four or five individuals, in every

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hundred, are said to resist the inoculation of small-pox, if they have not been vaccinated. An immunity from a second attack of some of those organisms, is well established, but has not been proven to be imparted to the progeny through inheritance.

A tendency to some diseases is transmitted by hereditary descent, because the progeny is modeled after the parents, and a lack of resistance to certain injurious causes will often be found in both, obviously. The conditions remaining the same, an increase in those diseases must take place; hence the well-known fact that two phthisical parents generally breed phthisical children; hence also the necessity for crossing, and the evil which sometimes results from the intermarriage of relatives. As an instance, a country settled by the descendants of various nations generally possesses a good breed, as the American people; and a secluded race declines, as the Negro or the Malay.

This recalls to one's mind that, although the course of nature is regular, it is far from being what mankind would have it. If man presided over the course of nature, it seems there would never have been a famine destroying so many millions of human beings as that of the Northern provinces of China in late years. Yet, it seems also that, without a relative evil, no good could exist.

Mankind being endowed with such wonderful qualities, take advantage of what good nature affords them, and have recourse to their genius and experience to guard against its evils. Hence architecture, garments, the culinary art, etc. Perhaps medicine could be referred to the same cause. We build houses to protect us from rain and snow, and fire enables us to live comfortably in cold climates. We also grind our corn before eating it, notwithstanding that we may contemplate the loss of our descendants' teeth in a remote futurity on that account.

In conclusion, breeding from weak or diseased individuals impairs the race. A frequent recurrence of epidemic diseases destroys the species. The improvement of mankind must be referred mostly to their morality, i. e., the accordance between the acts of a person and his notions of right. By this the individual has a tendency to progress, choosing the best of two given conditions. Hence the most intelligent and most righteous peo-

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ples are the most advanced in civilization, and have the best chances to survive. But what are the chances that the American Indians will survive in their conflict with civilized nations?

An absolute protection against infectious diseases would greatly diminish the death rate of any country, and increase the average length of life. The immunity from a second or a third attack of some infectious diseases is a subject well worthy of the investigation of some able experimenter. It is also a useless truth that, destroying early all the weak and diseased individuals, would improve the race to a certain extent; but the existence of such individuals is often the cause of some good, being objects of charity, sympathy and generosity on the part of their more gifted relatives.

Finally, the best treatment of disease sometimes prolongs the latter, as preserving crippled individuals, and thereby augments the ratio of disease in some circumstances. But what evil is comparable to death for an intelligent being?

Many medical lecturers, pupils of the dogmatism of by-gone years, always see in the course of nature causes established in order to arrive at premeditated effects. If there is deliberation in the course of nature, sustaining such propositions, it would greatly benfit the modern physicians to get good proofs of it.

ARTICLE IV.

CARIES OF THE SUPERIOR MAXILLA.

By TRUMAN W. BROPHY, M.D., D.D.S., Clinical Lecturer on Dental and Oral Surgery, in Central Free Dispensary, Rush Medical College, Chicago.

Read before the West Chicago Medical Society.

On October 26th, 1879, I was called in consultation with the family physician of the patient whose case I now report.

A lady aged thirty-five, somewhat anæmic, had an abscess form about two years previously, in the canine fossa of the left superior maxilla. It was lanced by her physician at a point just below the orbit and to the right of the infra-orbital foramen. It discharged freely. The wound, however, refused to heal, and

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there was constantly a discharge of sero-pus which excoriated the skin to an extent corresponding in size with a silver half-

dollar. Having treated the patient several months without improvement, her physician directed her to a surgeon, under whose treatment she remained about a year. This treatment consisted of introducing a seton into the fistula, passing it downwards, and carrying it through the mucous membrane, at a point where it folds upon itself (the gingevo-labial groove). Besides this, injections of solutions of carbolic acid were made. This treatment was kept up faithfully during the period above mentioned, without abating the disease in the least.

Indeed, the patient was gradually becoming weaker and despondent. Losing faith in her medical attendant, she drifted, as patients frequently do, from one practitioner to another, until she had employed several. The disease had been pronounced cancer by some physicians, who prognosticated death within two years. When she came under the care of the gentleman with whom I saw her, she was declining very fast. Under his treatment, however, her health improved. There existed in her case a general catarrhal condition.

The patient had, during the progress of the disease, been under the care of a practitioner of dentistry, who had skilfully filled the six anterior superior teeth, which were carious on the labial

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surfaces about the margins of the gums. The teeth were not carious to that extent, however, which would expose their pulps, or necessarily endanger their vitality. Neither was there any discoloration or other objective symptoms of devitalized pulps. The condition of the case was such as most frequently results from alveolar abscess, which cannot occur without the death of the tooth pulp. Examining the face carefully, I found that a probe passed into the fistula, came in contact with denuded bone. This covered a space about one inch and one quarter in diameter. Believing that the initial lesion could be traced to the teeth, and not having any instruments with me with which to test their vitality, I improvised the following method, which served the purpose admirably. With a small round file heated, I ascertained by applying it to the gold fillings (had there been no fillings, I would have applied it to the teeth), that the left canine tooth was, unlike the others, devoid of sensation: and it was at the apex of the fang of this tooth where caries of the bone was found. This enabled me to make a diagnosis of the case.

The patient accompanied me to my office, where I verified my diagnosis by drilling through the palatal surface of the non-sensitive canine tooth, when I found, as I had anticipated, the pulp canal filled with sero-pus, and by introducing the point of a syringe into the cavity in the tooth, liquid was forced through the pulp canal into the abscess and out of the fistulous opening upon the cheek. Having thus demonstrated that the diagnosis was correct, I decided at once upon the course to pursue in effecting a cure. With a bistoury, I made an incision through the mucous membrane, down upon the apex of the affected tooth, and into the cavity formed by the destruction of the bone. After controlling the hæmorrhage, by the use of a nasal speculum a clear view of the abnormal parts was secured. The alveolar process had become carious, to that extent, which exposed about one-third of the upper portion of the root of the canine tooth above mentioned. With an engine drill, I cut away the exposed portion of the root, and the carious bone surrounding it, then filled the canal with gutta percha, and smoothed it off carefully at the apex. This done, the cavity and wound were filled with boracic acid crystals. This treatment, together with general

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tonics, was continued, keeping up free drainage, until the cavity left by the destruction of the bone was completely filled with granulations, when the wound was permitted to heal. The fistula upon the cheek healed as soon as drainage was secured from the

lowest portion of the sac. The practice, so frequently resorted to, I regret to say, of lancing alveolar abscesses externally, cannot be too vigorously condemned. Unsightly scars are thus made, all of which might be avoided by opening these abscesses within the mouth.

Three months after the operation I filled permanently, with gold, the cavity made to reach the pulp canal, which completed my services to the patient. This case was of traumatic origin. Prior to the development of the disease, the patient had received a blow, cutting the lip quite severely, on the affected side, and it was due to this accident, which severed the vessels and nerves of the pulp of the canine tooth, that its vitality was destroyed.

After the pulp became devoid of vitality, suppuration and generation of gases followed in close succession, when the pus was forced through the apicial foramen, with the result above given.

The question would naturally be asked, what do you expect of a tooth after the loss of its pulp? Is it not then a foreign substance, and therefore incompatible with the economy? My answer would be, No. Certain tissues of the tooth, the enamel and dentine, have lost their source of nourishment. The cementum, however, which forms the external portion of the root, closely resembles true bone, like which it contains lacunæ and

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canaliculi; and is nourished by the vessels of the periosteum. Therefore, we have an organ not wholly devoid of vitality, and when properly treated, will serve for many years the purpose for which it was intended.

I have no doubt that a very large percentage of the cases of caries and necrosis of the maxillary bones, as well as trigeminal neuralgias, with all their complications, emanate from lesions of the dental organs. And it is not too much to say that if, instead of resorting to their indiscriminate removal, they were treated upon scientific principles, as other diseases are, the requirements of humanity would be far more effectually subserved.

ARTICLE V.

ABSTRACT FROM AN ADDRESS DELIVERED BEFORE THE ALUMNI ASSOCIATION OF RUSH MEDICAL COLLEGE, at their annual banquet, in the Grand Pacific Hotel, Chicago, Feb. 25, 1880. By PROF. DELASKIE MILLER, Acting President of the College.

"Know thou thyself" is an admonition which has passed currently among men for many generations, and it may be accepted as genuine coin to-day, for self-knowledge is undoubtedly invaluable. But how may a man know himself? This query involves a problem not easily solved by many.

A short time since I was accosted by a gentleman who introduced himself by a name with which I had long been familiar, even from early boyhood. I had not seen him for many years. I said to him: "I should know you. I recall many incidents connected with your personal history, but the change in your external appearance is so great that I could not identify you. When you think of it, the change must seem as great to you as it appears to me. You are now justly regarded as a statesman. You are the chief executive of your State. How do *you* know that you are the same person with whom I attended the primary school and played at games in early life? There is not one particle of matter in your system now that composed your body then." His answer was philosophical and satisfactory. He

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replied, "By *memory* and my *consciousness* I have proof of my identity."

It is not difficult to perceive the parallel in the history of the individual and the development and growth of a great institution. Who that has seen Rush Medical College to-day could realize that *it is* the same institution that originated on Clark street? Then, a few plain seats in a rear room of an inferior building accommodated the students in attendance upon the lectures—now, nearly five hundred seats are occupied in a building which would be an ornament to any city. Then, two Professors gave the entire course of lectures—now, more than thirty enthusiastic physicians are engaged in teaching the classes. Then, sixteen weeks of each year was considered ample time in which to qualify young men for the responsibilities of medical practice—now, systematic instruction is given during thirty-seven weeks of each college year. Then, *clinics* constituted no part of the curriculum—now, students are *required* to attend the clinics which are given daily throughout the term. Then, practical chemistry was not thought of as an exercise for the student—now, practical work in the laboratory is considered important, and many students become proficient there.

In another respect I can trace the analogy in the history of the individual and the college. As in man the elements are constantly changing, so is it with the institution. Herrick was laid to rest in an Eastern city. Brainard ceased from his labors in the midst of a prosperous course. Blaney was called home after he had attained the highest honors of the institution; and Freer, of blessed memory, has ascended to his reward. Thus there is not one left who assisted in the organization and early history of the college. But no—I must qualify that statement—not one of the early faculty remains. There is one honored name still with us—the name of a gentleman who took an active part in the organization of the college, and who has ever felt and manifested a lively interest in its prosperity—who has faithfully discharged the duties of secretary of the board of trustees from the first meeting even until now, and whose name is attached to the diploma of each alumnus of the college from its

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organization. As Judge Goodrich is unable to be present this evening, I give the alumni present his cordial greeting.

Gentlemen, we hear much said during these latter years upon the subject of medical education. And much that we hear is anything but commendatory of the system now in vogue. There are in our ranks some who may be styled pessimists—who believe the present time just about as bad as it well could be—who think the medical teaching of to-day anything but thorough—who feel that the profession has deteriorated by the admission of young men, since they graduated. Now, I do not sympathize with these sentiments in any degree. I believe in optimism. I believe the present time better than any former time. The medical profession holds a more honored position to-day than ever before. It exercises a greater influence for good. It is consulted with more confidence on important questions involving the highest interests of society than in any past time.

Am I warranted in assuming that Rush Medical College has contributed a share to this advancement—this elevation of the profession? That she has done some faithful work during these thirty-six years of her active existence? Who fill many of the important chairs in the medical colleges in this city and in different sections of this country? Graduates of Rush Medical College. Who is at the head of the Marine Hospital Service of the United States? A graduate of Rush Medical College. But I would weary you were I to call the roll of honor. I claim that the past history of the college must be accepted as prophetic of her future increasing influence and usefulness.

It will not be expected that I should enumerate the improvements which have been inaugurated by Rush Medical College. I may, however, refer to the mode adopted for filling vacancies in the Faculty by *concours*—a mode which has proved highly satisfactory; a mode which has attracted some of the best talent in the land; a mode which holds out inducements in the future to the graduates of this, the *best* class, and of which they will undoubtedly eagerly avail themselves.

During all the changes—internal and external—which have marked the career of the college, her progress has been onward and upward. Though her Faculty, some of them giants in

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intellect, may by the inscrutable providence of God, be removed from the sphere of their usefulness here—though the material fabric may be dissipated in thin air and disappear in smoke—still the college survives, for she is animated by a living soul—she is stimulated by the same spirit now as heretofore. She is not averse to improvement—she is not traveling in a rut. She is constantly augmenting the means and facilities for greater thoroughness in teaching—she is constantly exacting higher attainments of her graduates. She is determined to keep abreast with the most advanced in every real improvement.

As long as the right material for our classes is furnished by the profession of the country, so long will "old Rush" continue to add to the profession physicians who will take rank with the representative men who are present to-night.

A REMEDY FOR THE SICK-STOMACH OF PREGNANCY.—Doctor Forwood, at a late meeting of the Lancaster, Pa., Medical Society, read an interesting paper on the "Treatment of the Sick-Stomach of Pregnancy." His favorite prescription is as follows:

℞ Rad. columbo.....
Rad. zingiber, āā..... ℥ss.
Fol. sennæ..... ℥j.
Aquæ bullient ..... Oj.
Mix. Infus.....
Sig. Take a wineglassful before each meal.

Dr. Forwood says: "For a time we used these medicines in a powdered state, but finally abandoned it in that form because of the 'mushy' character of the infusion, which was disagreeable to the patient and difficult to filter with ordinary appliances."

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Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

ARTICLE VI.

Cleft of the Hard and Soft Palate Closed by Operation with Production of Bone in the Palatine Vault.

C. L. presented himself at my office, Feb. 8, 1876, aged twenty-two, robust and of good constitution, to be treated for an increasing deafness which had troubled him for three years.

On examination, I found a cleft of the hard and soft palate with considerable angina which I attributed to the fissure, and advised an operation to close it in the hope of improving his hearing as well as speech. The latter was so imperfect and nasal that even his own relatives could understand but little of what he said. The cleft was complete, extending forward to the incisor teeth, and was of the unilateral form. It was also complicated by hare-lip, which was operated upon when he was two months old with good success, a statement being then made to the effect that nothing could be done for the fissure. The cleft was very wide behind, and tapered to almost a point in front. The operation I performed March 15, 1876, assisted by Dr. W. M. Blair. The patient was seated in an adjustable chair in front of a good light, and *no* anæsthetic was used.

Whitehead's gag was employed to keep the mouth open and the tongue out of the way. The palato-pharyngeal muscles were seized low down and divided with a pair of long curved scissors. Then the levator palati muscles of each side were thoroughly divided, also the muco-periosteal membrane lining the lower part of the internal pterygoid plates with Whitehead's knives. After

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this the side incisions were made through the muco-periosteal tissue of the gums to the bone. These incisions extended from a little back of the last molar to the incisors on each side. The next step was to divide the muco-periosteal tissue along the edge of the cleft of the hard palate to the bone, as well as the palatal muscles along the posterior border of the palate bone, which was done with Whitehead's hoe. After this, I detached the periosteal tissue from the palatal process of the superior maxillary on each side, avoiding the anterior palatine foramen and posteriorly, where the superior palatine artery emerges, with a periosteotome. The paring of the edges of the cleft was done with a long straight-edged knife, holding the flaps with the long curved forceps used for seizing the palato-pharyngeal muscles.

Six silver wire sutures were then passed, three farthest back with Whitehead's medium-sized staphyloraphy needle, three in front with small needles in ordinary needle forceps. After all were passed, I commenced in front and carefully adjusted them. Then the lateral cuts were thoroughly stuffed with lint, which was removed and freshly applied every day after thorough cleansing of both wound and mouth with a weak solution of carbolic acid. He was kept on soups and liquid food for ten days, at which time the union was found complete in its entire extent, except a small aperture about the size of a silver probe at the anterior part of the cleft. The sutures were all removed on the eleventh day, as was also the lint in the side cuts. The opening that remained kindly healed after making three applications of solid nitrate of silver to it, about one week apart. The new palate was sufficiently long and lax to perform well its functions. Returning to my office within two months from the time of operation, the speech was found to be very much improved; in fact, the patient could talk quite plainly. There was also very decided improvement in hearing, so that he could conduct ordinary conversation very well. He was last seen Aug. 1, 1876. Then the situation of the cleft was entirely healed, and, testing with needles, I found the site of the cleft of the hard palate gave the sensation of bone, and the soft palate and uvula were almost of normal appearance.

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The especial points in the case were the thorough relaxation of the soft palate and the dissection of the flaps, so that there was sufficient relaxation. With these precautions there will be no tension after union, upon which depends the improvement of speech.

A. E. SMITH, M.D.

DARLINGTON, WIS., Nov. 10, 1880.

OXALATE OF CERIUM IN THE TREATMENT OF CHOLERA INFANTUM.—A country practitioner writes to the *Concours Médicale* on the treatment of infantile cholera by oxalate of cerium. He says: "Profiting by a slight epidemic of diarrhœa among children and adults, I administered oxalate of cerium regularly, in doses indicated by my *confrére*, Dr. Poulet, viz., four grains divided into ten powders for children under two years, one to be given every hour; eight grains in ten powders between two and ten years; and fifteen grains similarly divided for adults. Without any exception, I have obtained rapid and absolute cessation of the vomiting, and in four cases, complete cure of the diarrhœa. In a child of a month old, already much attenuated by the disease, I renewed, during three days successively, the dose of four grains in ten powders; each time I obtained the cessation of the vomiting, which returned when the medicine was discontinued. Unfortunately, it was impossible for me to arrest the diarrhœa, and the child succumbed; but I am convinced that if I had been called in earlier I could have saved it. I cannot impress too strongly the importance of the cessation of the vomiting, as it permits the employment of the administration of the remedies usual in these cases. I tried to give the oxalate of cerium in a mixture, but I had to abandon it in favor of the powders. In a word, the employment of oxalate of cerium seems to me indicated in infantile cholera, and the cholera nostras of adults at the vomiting period. Its action upon the stomach is incontestable; and if that which it exercises on the intestine is more doubtful, it permits, at least, the recourse to other me licines the administration of which would have been otherwise impossible."—*Med. and Surg. Reporter.*

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Domestic Correspondence.

ARTICLE VII.

NEW YORK LETTER.

Editors of CHICAGO MEDICAL JOURNAL AND EXAMINER:

The Cartwright lectures are now being delivered by Professor Roberts Bartholow, of Philadelphia, and the course is deservedly attracting much interest. The subject chosen is the Physiological Antagonism between Medicines; and between Remedies and Diseases. This subject, which has already been worked up, to some extent, by Rutherford, Fothergill and others, will receive much further enlightenment from Bartholow, if one can judge from the lectures already delivered. The first one was devoted to a discussion of the antagonism between opium and belladonna, a point concerning which the lecturer has already written a good deal. The hall was densely crowded and the speaker listened to with great attention. Dr. Bartholow is not an orator at all, but he talks plainly and makes no attempt at rhetoric or elocution. The lecturer is one of the apostles in this country of physiological therapeutics, and he has done more, perhaps, than any one, except Wood, to popularize, so to speak, the scientific method of applying remedies. He lays himself open to the charge of being too ready a generalizer, and too positive in his therapeutical beliefs to satisfy the critical. But such charges, though they weigh against a person on some accounts, are very easily condoned in a teacher of medical students, for whom a good deal of dogmatism is needed.

Therapeutics in this city, by the way, seems to be in a very chaotic condition, if we may judge by what is taught in the medical colleges. In one of these the professor teaches, with

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great eloquence and earnestness, that all medicines are divided into disease-remedies and symptom-remedies, the former being foreordained from all eternity for the treatment of chronic disease, and the latter for acute. All the students go out from the institution with these and other curious therapeutical ideas packed away in their brains. For the professor creates great enthusiasm among his pupils, as, indeed, he deserves, since, in spite of his idiosyncracies, he is an able man and a magnetic speaker.

In another college, the professor of therapeutics has practically given up entirely the idea of classifying medicines. He simply divides them into mineral and vegetable bodies and then makes subdivisions of the former on a chemical basis. While the first professor referred to is transcendental, and is, in a measure, a teacher of specifics, professor number two is materialistic and a pessimist. In the former's lectures one gets a spirit of hopefulness and leaves with a vague impression that there is a remedy for everything; in the latter's lectures one catches, in undertone, the idea that nobody knows very much about therapeutics anyway. No doubt he is the nearer right.

It is not often that elegant buildings and hospitals are erected for the benefit of medical or surgical specialties. It is only in large cities that the conditions are met which call for or allow such structures. Even in New York, almost all the costly hospitals are general in character. Up to a comparatively recent time this was entirely the case, but of late there seems to be developing a demand for elegant special hospitals. The Orthopædic Hospital is quite a fine building, and is, I believe, the first one of its class in the city. Not long ago the second building of the Woman's Hospital was finished. But the crowning structure of all seems likely to be the Manhattan Eye and Ear Hospital, whose erection is now going on. It is a brick building, with brown-stone basement and trimmings, and is to be five stories high. It will cost nearly a hundred thousand dollars, of which, at last accounts, not a very large part had been raised. The hospital has one particularly good feature in its management, and that is, the union of medical with lay authority on its governing board. That this accounts in part for its prosperity, there can be no doubt. It is a curious fact regarding the three special

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hospitals which I have just mentioned that they are all grouped near the Grand Central depot, and are consequently in the noisiest and worst part of the city. Close by the Woman's Hospital there is a constant rattle of trains, jangling of bells and screaming of whistles. It might be interesting to try and estimate the therapeutical effect of multitudinous noises upon morbid conditions of the uterus.

The medical activity of New York, as evinced in its various societies, is now at its highest pitch. There are in the city more than a dozen different organizations which are devoted to the advancement of the interests of medical science. The largest one is the County Medical Society, which has the peculiar responsibility of looking after our morals and manners. It is the society with which every regular physician is expected to affiliate. Its membership, however, is probably not over 700, while the total number of medical men registered in the county, under the new law, is nearly 2,500. As there are only between one and two hundred homœopaths in the city, it follows that we have a great many persons here who are either irregular or will not affiliate. Still the society is a powerful and active one.

The New York Academy of Medicine now has the greatest prestige among our medical organizations, for the character of its work and of its members—as well as for the balance which lies in its treasury. It owns an elegant building, a large library, and takes all the medical journals; and it generously throws open its doors to the whole profession, whether members or not. It is constantly increasing in wealth and membership, and it deserves, by the liberal spirit that is displayed, the reputation which it is gaining.

In the New York Pathological Society there are many persons whose medical and scientific attainments are unsurpassed. This is especially the case as regards the younger part of its members.

The society, as a rule, does most excellent work at meetings. Occasionally this is not the case, however, as happened not long ago. A medical gentleman, from Baltimore, I forget his name, was invited to show to the society the results of his recent investigations into the nature of syphilis. The gentleman in question appeared, and having hedged himself in with an imposing array

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of microscopes, announced that he had found some peculiar rod-shaped organisms, which were, he believed, the specific germs of syphilis. He believed this, because he had always found these spores in chancres, and also in the indurated glands that accompany or follow the initial lesion of syphilis. The spores were rod-shaped bodies, grouped in a peculiar manner among the cells.

His statements were not received with much favor, as appeared from the ensuing discussion, and it seemed probable to some that the "spores" were nothing but crystals of alum, a substance used in the preparation of the sections. *Quid non sacra fames* of finding a specific germ, compel mortal hearts to do! This interesting exposition was followed by the display of a small fish-bone, with a history of the case and "remarks," the said bone having been extracted with much skill from the upper part of the œsophagus. Then came a discussion over the bone; and then the presentation of a kidney of a man who had suffered from that rare and obscure disease known as chronic diffuse nephritis. But this does not by any means represent what the Pathological Society can do, or generally does.

The Neurological Society has some very active and wide-awake members, and its meetings are almost always made interesting by lively discussions. For some time past it has turned its energies upon psychiatry and the insane asylums. This has resulted in much notoriety for the asylums and a good deal of newspaper prominence for the society. The prospects of asylum reform are, I may say now, considerably brighter than they have been. A committee appointed by the legislature last winter is investigating the State institutions for the insane, and there is promise that it will do its work thoroughly. The system of caring for our State insane undoubtedly needs an overhauling and readjustment, though whether anything very radical can be done under the present political methods, is doubtful.

To return to the societies—New York's wealthiest and most "aristocratic" medical organization is probably the Obstetrical Society, which includes the gynæcologists. This is partly social in its objects, and, after discussing trachelorrhaphy, etc., it then, as is rumored, addresses itself to champagne and oysters with

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much earnestness. Trachelorrhaphy is indeed a dry subject, compared with champagne.

The Clinical Society, composed for the most part of young men, and very clever ones, is an organization that does some very good work. A paper was read before it a while ago by Dr. F. H. Bosworth on the subject of the effect of tobacco smoking upon the throat. It was the opinion of the reader—an opinion confirmed in the subsequent discussion—that smoking did not affect the throat at all, as a rule, and that genuine smoker's sore-throat is rather a myth. Some exception was made to the innocuousness of cigarettes; and it was, of course, admitted that hard smoking might aggravate a chronic catarrh brought on by other causes.

There is, after all, but a small proportion of the profession that attends with any regularity the meetings of the societies. And there is a very good reason for this. Although occasionally there are excellent papers and discussions, this is not the rule, and whether the paper is good or not there is a large amount of talk that is simply inane following it. Societies are haunted by a few persons for whom age or accident secure respectful hearing, and who insist on using their privileges of the floor, whether they have anything to say or not. Now it is not profitable to listen to discussions upon the value of whale-oil in pleurisies, for instance. Nor can one be aroused to enthusiasm by a two-hour oration on the habits of the tape-worm. Society meetings illustrate the curious physiological fact that when any accident, prenatal or otherwise, arrests the development of the cerebral mass, the posterior part of the third left frontal convolution generally remains intact, or may even be the seat of an extra molecular activity. There are a certain number of persons, generally, but not always in the decline of life, who will get up and talk, whatever may be the subject, and one could easily experience the idea of eternity by listening to them, we will say for a day. Sometimes it is amusing to note the contact between the old school of medical thought and the new, with its display of scientific refinements. A venerable physician of wide reputation, but of somewhat empirical habit of mind, was nearly paralyzed, the other

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evening, by a bright young neurologist who asked him "if there was not a condition of cerebro-spinal depression in his patient, which contra-indicated the use of opium."

On the whole, a person is hardly to be blamed for staying away from most society meetings, since he runs an excellent chance of being bored, and since what is best in the proceedings can be found later in the medical journals. This is, of course, only one way to look at the matter. From a higher stand-point it might be considered a duty to go and do some work to make the meetings better. Furthermore, there is no doubt that if a New York medical society sets out to have a good meeting, as occasionally happens, there can be nothing more instructive.

Some attempts have been made of late to stir up the subject of veterinary, or comparative, medicine. It is said that there is a great need of educated veterinarians, and that whoever has the courage to encounter the obloquy of being called a "horse-doctor," is sure to earn a handsome income, while, if he has true inclination, he can win a scientific reputation at the same time. The veterinarians of this city easily gain an income of $2,000, and from that upwards. There is a great deal still to be worked up in the diseases of the lower animals. The above are the statements made by Dr. Bates, the Dean of the Columbia Veterinary College of this city. The recent prevalence of pleuro-pneumonia, the discussions upon trichiniasis, bovine tuberculosis, chicken-cholera, anthrax and splenic fever have tended to give a new prominence to the value of comparative medicine, and it is a prominence which is unquestionably deserved.

Our night medical service continues to receive encomiums from various quarters. There were, I believe, about thirty-two calls during October. The Academy of Medicine has passed a vote of thanks to its originator, and thus reaffirmed its indorsement of the project. It does work very nicely—in a way. One of these ways is as follows: when a poor patient calls up a member of the service in the night, he tells him to go to the police-station and ask the officer there to send for him. The doctor thus insures his three dollars. It is quite possible for some permanent arrangement between physician and patient to be made in this way. Thus the system is liable to great abuse, though it would

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be unfair to say that it has not been properly carried on up to the present time. I noticed that in Paris the expense of the service has of late increased so rapidly that some investigation has had to be made.

We have the divine Bernhardt with us just now. Her acting excites the greatest interest among all; but her attenuation seems to have especially attracted the observation of medical men. Among these, she is reported to be so very thin that whenever she takes a pill, she looks as though she were pregnant!

NEW YORK CITY, Nov. 16, 1880.

A DANGEROUS TOY.—At the last séance of the Société d'Hygiène, Dr. Gorecki exhibited one of the little toys resembling a swallow, constructed by supporting a small helix of zinc on a handle provided with an apparatus for giving it a rotary motion like a top. In appearance nothing could be more inoffensive than this simple toy, but in reality it is quite dangerous, especially if the child who plays with it, sets it in motion while the apparatus is held over the head.

One month before, a child eight years old was brought to his eye clinic, who, in spite of the protests of his schoolmasters, had not only played with the toy, but instead of holding it at a distance from his body with the arms extended when it was set in motion, had persisted in holding it directly above his face, in order to secure more force in propelling it. When the zinc helix flew off, it divided the eye in a horizontal line as completely and as cleanly as if the incision had been made for a cataract operation. The aqueous humor, iris, crystalline lens and vitreous body all escaped from the wound, while the retina, released from its position by a severe hæmorrhage, stuck to the posterior face of the cornea. The eye was completely lost. A similar accident is said to have resulted from the impulse given to a playing-card in what is known as "prestidigitation."—*Le Praticien.*

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Society Reports.

ARTICLE VIII.

AT a meeting of the Aurora Medical Society, held at Aurora, Ill., November 8th, a specimen was presented and the following history given by Dr. M. M. Robbins.

Was called about four o'clock p. m., October 22, 1880, to see J. B. W., a machinist, aged 57, who had been wounded by a pistol ball. Found him laboring under severe shock. Under the use of stimulants, he rallied, reaction on the following day being excessive.

On examination, assisted by Dr. E. B. Howell, the ball was found to have entered the left arm at a point about five inches below the shoulder joint, emerging about two inches below the axillary fold, passing anterior to the bone and not injuring it. It then struck the chest over the fifth rib, passed inwards and slightly downwards to the fourth costal interspace, and a little inside a line drawn perpendicularly from the left nipple. Beyond this point the probe would not pass. He improved quite rapidly. He had no pain, except from a bronchitis, which he had contracted previous to the injury. There were no symptoms indicating that the ball had injured any vital organ.

On the eighth day after injury, he was dressed. On the ninth day he was out of doors. On the tenth he walked about still more. On the eleventh he walked about home a short time in the morning. About ten o'clock he took a short ride in an easy carriage; returned home; said that he felt better than at any time since the injury. During the afternoon he walked about or rested upon the sofa, as he felt inclined; ate a light supper about 6:30 p. m.; chatted for awhile after eating. Said frequently that except being a little weak, he felt better than at any time

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since his injury. He walked from the table to one corner of the room, sat down, and immediately complained of a severe pain and pressure in his chest, in the cardiac region. He walked to another part of the room, and in a few minutes died. It was estimated by different members of his family that he lived from three to eight minutes after the serious symptoms began—probably not more than the shorter time. He had lived eleven days, three and one-half hours after the injury.

Post mortem fourteen hours after death. Present Drs. Higgins and E. B. Howell.

On opening the chest, a considerable quantity of blood was found in the left pleural cavity, and the pericardium was filled with blood. About one-half of that in the pericardium was in the form of a recent clot. No old clot could be found. The ball had struck the upper border of the fifth rib, at the point to which we had traced it at the time of injury, described nearly a right angle with its previous course, perforated the pericardium, struck the left ventricle upon its anterior surface about two-fifths of the distance from the base to the apex, passed into and through that cavity nearly horizontally, and lodged in its posterior wall, through which it nearly passed at the time of injury. At this point there was a stellate rupture. This was at the apex of a slight elevation upon the surface, the walls of which were very thin. It is possible that these walls had been thinned by being worn by the roughened surface of the ball after its lodgment there.

There were old adhesions of the pleural surfaces at the left of the heart, which accounted for the pain in that region which attended his cough. One of the aortic valves was ossified. This was the only lesion referable to the heart discovered before death, although careful examination was made for any symptom which would indicate that the heart had been injured. The ball was of 32 caliber. I am told that he ran about fifty feet after receiving the wound before he became unconscious.

The wounds in the arm, chest and anterior wall of the ventricle were entirely healed. One of the pillars of the columnæ carneæ was located immediately over the point where the ball entered the ventricular cavity, and may possibly have prevented or helped to prevent the flow of blood through the wound.

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Reviews and Book Notices.

ARTICLE IX.—A HANDBOOK OF PHYSICAL DIAGNOSIS, COMPRISING THE THROAT, THORAX AND ABDOMEN. By Dr. Paul Guttman, Privat Docent, University of Berlin. Translated from the third German edition.

In this valuable work, the condensed result of a long clinical experience in the University of Berlin, the author presents the various methods of clinical examination of the thoracic and abdominal viscera, in health and disease. As far as the nature of each subject permits, he observes uniform order in its arrangement as to details, taking up first the signs obtained by each method of exploration, then their causes, and the physiological and pathological conditions in which they occur. This work forms a compact volume of 344 pages, including an appendix on laryngoscopy. It has been much noticed abroad, has passed through a half-dozen translations in different languages. Wood's Library Standard Medical Authors, 1880. D.

ARTICLE X.—NAVAL HYGIENE: HUMAN HEALTH AND THE MEANS OF PREVENTING DISEASE. With illustrative incidents, principally derived from naval experience. By Joseph Wilson, M.D., Medical Director U. S. Navy. Second edition, with colored lithographs. Philadelphia: Lindsay & Blakiston; 1879.

As time goes on, the subject of hygiene is gradually coming to the front and taking the place in medical education to which it is entitled. The National Board of Health, the various State Boards of Health, and, under their supervision, numerous village and city organizations of a like character, are all working toward

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the same end. "*How to prevent*" is quite as important as "How to cure." Among the excellent treatises upon hygiene, this book of Dr. Wilson's takes a high place. The fairness of statement which characterizes the author's writings, as well as the practical information conveyed by them, help to make this volume a valuable book of reference to the physician. While it is especially devoted to the consideration of the "Hygiene of Ships," and to the discussion of the best means of preventing disease among sailors and seafaring men, it is yet of value to the general reader.

Chap. XXIII, which considers the important subject of "Yellow Fever," is quite too short, and condensed to a space which is not commensurate with the importance of this terrible scourge to (at least) American seamen. A more extended article, giving additional information upon the hygiene of this disease, would make the book much more valuable. Taken as a whole, the work is an excellent one, and ought to be read by every physician. B. W. G.

ARTICLE XI.—PHYSICIANS' COMBINED CALL BOOK AND TABLET, AND PHYSICIANS' HANDY LEDGER. Published by Ralph Walsh, M.D., Washington City, D. C. Price, $3.00 and $1.50.

We have been using these two books in our professional work for some time past, and find them the most convenient in size, shape and system we have ever used. By them any physician, no matter how extensive his practice, can by a few minutes' attention keep a detailed account of his services. The ledger well deserves its title "handy," for the simplicity and accuracy of its method is very marked. B.

ARTICLE XII.—LESSONS IN GYNÆCOLOGY. By Wm. Goodall, A.M., M.D., Professor of Clinical Gynæcology in the University of Pennsylvania. Second edition.

Many of these lectures are well known to the profession through their appearance, from time to time, in various medical journals throughout the country; and their collection into this interesting volume has been no doubt duly appreciated. The

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reader will hardly tire of the book before the last page is finished. Admirably clear in style and eminently practical, theory has little space, but energetic, painstaking work fills each hour. The reader sits in the amphitheatre, the patient is brought in, and the entertainment proceeds.

Chapters XXX, "On Nerve Tire and Womb Ills," and XXXI, "On Special and General Hints for the Prevention of Uterine Disorders," are practical hygienic sermons from life.

We commend the work to the profession especially, as adapted to the thorough commitment to memory by the younger practitioners. D.

ARTICLE XIII.—A NOTE ON THE ALKALOIDS OF CINCHONA. By BENJ. LEE, M.D., PH. D., etc. Read before the Medical Society of the State of Pennsylvania in May, 1880.

This is a short paper, the chief object of which appears to be the showing of how many active principles the cinchona bark contains, and to advertise the combination of several of these in the form known as Quinquinia. The writer enumerates eighteen primary and seven secondary distinct active principles as having been obtained from the bark. They are named as follows:

NATURAL ALKALOIDS.

Crystallizable.	*Amorphous.*
Quinia.	Dihomocinchonia.
Quinidia.	Paytamia.
Cinchonia.	Cusconidia.
Cinchonidia.	Dicinchonia.
Quinamia.	Diquinidia.
Quinidamia.	Paricia.
Homocinchonia.	A liquid alkaloid unnamed.
Homocinchonidia.	
Paytia. Cusconia.	
Aricia. Jauania.	

Artificial or Secondary Alkaloids.

Produced from the crystalline alkaloids by overheating or by certain chemical reactions.

Quinicia.	Quinamicia.
Cinchonicia.	Homocinchonicia.
Quinamidia.	Apoquinamia.

Protoquinamicia.

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Selections.

ON PERITYPHLITIS. By HENRY B. SANDS, M.D., Professor of the Practice of Surgery in the College of Physicians and Surgeons, New York; Attending Surgeon to the New York and Roosevelt Hospitals.

Since the year 1867, when Dr. Willard Parker happily advocated and adopted the plan of treating perityphlitic abscesses by early incision, the procedure has received considerable attention from American surgeons, and the practice recommended by Dr. Parker has been fully indorsed by all who have published the results of their experience. That the disease, however, although by no means uncommon, is frequently overlooked or misunderstood, seems quite certain; and what is known about it has not yet been embodied in the standard surgical text-books, but remains scattered among the pages of our current medical literature. Further discussion of the subject is therefore desirable, in order that the disease may be readily recognized and submitted to appropriate surgical treatment; and in order that those cases in which operative interference is necessary may be, if possible, distinguished from others, not infrequent, which tend to spontaneous recovery, or which, at least, are likely to terminate favorably without the aid of the knife. My object in the present communication is briefly to present to the Society the results of my own observation of this affection, in the hope of eliciting profitable discussion, and of obtaining such additional information derived from the personal experience of my colleagues as shall throw light upon several obscure and unsettled points connected with its pathology and treatment. My remarks will refer only to those cases of inflammation in the neighborhood of the cæcum,

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in which the disease is circumscribed; as those in which general peritonitis rapidly follows a perforation of the cæcum or the vermiform appendix, belong to a separate category, and terminating fatally, are as yet beyond the reach of art, and possess therefore a pathological rather than a surgical interest.

Thus defined, twenty-six cases of perityphlitis have fallen under my notice. Of these, twenty-two were observed in males and four in females, thus confirming the fact already established concerning the comparative rarity of this disease in the female sex. Of the entire number, only one occurred in hospital practice. The youngest patient was nine years of age, and the oldest fifty-four. Of the rest, ten were between ten and twenty, seven between twenty and thirty, two between thirty and forty, and five between forty and fifty.

As is well known, various causes have been assigned by systematic writers for the occurrence of the inflammatory affection under consideration, and a pathological classification of the cases I have seen would doubtless be preferable to any other, provided it could be accurately made. But as in all, except three of them, the disease terminated in recovery, the precise pathological condition could rarely be determined; and therefore I have thought it more profitable to separate the cases into four divisions, as follows:

1. Cases terminating in resolution, without evidence of suppuration.
2. Cases of abscess, terminating in spontaneous recovery.
3. Cases of abscess, treated by operation.
4. Cases of abscess, unopened, and ending fatally.

The first group comprises ten cases, in all of which the disease disappeared without showing any signs of suppuration. Inasmuch as many persons entertain the erroneous notion that perityphlitis, when once established, must necessarily terminate in the formation of abscess, it will be important to dwell on these cases long enough to show that their diagnosis was carefully and fairly made out. In all, the following symptoms were present, namely: abdominal pain and tenderness, usually occurring suddenly, sometimes limited to and always most marked in the region of the cæcum; fever, indicated by an acceleration of pulse and a

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rise of temperature; and the presence of an indurated swelling, distinguishable either by palpation in the right iliac fossa or by digital exploration of the rectum. In most of the cases, the onset of the disease was severe, being characterized by nausea and vomiting, and by acute pain and tenderness in the cæcal region. Sometimes the pain in the abdomen was diffused in the beginning, and became localized only on the second or third day. The temperature was elevated in every case, ranging from 100° to 104° F., in one case reaching 105°. The most striking feature of the disease, namely, the presence of a circumscribed induration in the right iliac fossa, was observed in nine out of the ten cases belonging to this group; while, in the remaining case, the inflammatory swelling could be distinctly felt through the rectum, the finger detecting a firm elastic mass, tender to the touch, and evidently developed from the region of the caput coli. When present in the iliac fossa, the tumor seemed deep-seated, and was invariably situated above and within a short distance of Poupart's ligament. Its external margin often advanced to a point within an inch of the anterior spinous process of the ilium, while, internally, it seldom reached the median line, in one instance, however, passing two inches beyond it. Its upper limit rarely extended above the cæcum or adjacent part of the ascending colon. In all instances the tumor was deep-seated, immovable, and tender on pressure; and in several the abdominal wall covering the tumor anteriorly was so exceedingly painful to the touch as to render a thorough examination quite difficult. The induration was usually discovered within forty-eight hours after the commencement of the disease, and generally began to subside soon after the abatement of the other symptoms.

It is worthy of notice, however, that in almost all cases the subsidence of the tumor was gradual, and that in one instance nearly five months elapsed before the disappearance was complete. This fact, coupled with the circumstance that care was always taken to secure a thorough action of the bowels by the administration of purgatives, clearly indicates the inflammatory nature of the tumefaction, and forbids the supposition of the latter being directly due to fæcal impaction in the cæcum. In one exceedingly chronic case, in which the disease lasted for several months,

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an accumulation of hardened fæces in the cæcum and colon seemed evidently the origin of the inflammatory mischief, which continued, however, long after the exciting cause had been removed. So far as the early symptoms are concerned, these cases could not be distinguished from those that were destined to go on to suppuration. The abdominal pain, the fever, and the gastric disturbance were quite as severe, and the indurated mass occupying the iliac fossa presented the same characters. I have therefore learned to decline, in the beginning of the disease, to express a definite opinion as to the probable ultimate result, since time alone can decide whether the inflammatory process shall be arrested, or advance to the stage of suppuration. Fortunately, the doubt is often solved at an early period, for I ascertain from my notes that in five out of the ten cases resolution occurred as early as the fifth, and not later than the eighth day; while in only one case was it delayed beyond the fourteenth day. The favorable termination was indicated by a decided fall in the pulse and temperature, the latter sometimes dropping below the normal standard, and by a marked diminution of abdominal tenderness, pain and distension. These signs of improvement generally coincide with a decrease of the local tumefaction, traces of which, however, as has been mentioned, often remained long after the establishment of convalescence. In a few instances the tumor subsided so rapidly as to suggest that an abscess had ruptured, although a careful inspection of the urine and fæces failed to detect admixture of either blood or pus.

Regarding the pathology of the cases now referred to, nothing very definite can be stated. In one case, impaction of fæces in the cæcum seemed a probable cause; in another, the disease came on after unusual muscular exertion; while in a third, it may have been due to some intestinal lesion accompanying continued fever. In the remaining seven cases, no adequate cause could be discovered. In all, however, the symptoms pointed to plastic inflammation of the connective tissue adjacent to the cæcum as the proximate cause of the characteristic induration which, with a single exception, was found in the iliac fossa. In this exceptional case, in which the inflammatory swelling could be felt only through the rectum, it may be conjectured that the

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irritation proceeded directly from the vermiform appendix which, instead of being curled up behind the cæcum, lay at, or below the level of the brim of the pelvis. What proportion of cases were connected with the lodgment of fæcal concretions or foreign bodies in the vermiform appendix cannot, of course, be determined; but it should be remembered that this morbid condition is the most frequent cause of perityphlitis when the disease culminates in abscess, and that in many of the latter class of cases, there is obtained a history of one or more preceding attacks of a similar character, terminating by resolution. The invariable occurrence of such disease on the right side can be explained only by reference to the cæcum or its appendix as the starting point; and pathological anatomy has demonstrated that lesions of the appendix are relatively more frequent, as well as more dangerous than those of the cæcum itself.

The treatment of the cases which terminated in resolution consisted mainly in local depletion, the application of fomentations or poultices to the abdomen, and the internal administration of opium. Eight or ten leeches were usually applied over the cæcal region, and sometimes the leeching was repeated. The effect was often markedly beneficial. Opium or morphia was given in moderate doses, sufficient to allay pain, but never so as to induce narcotism. Castor oil, fluid extract of senna, or calomel was administered in nearly all cases early in the disease, and I would remark that this practice appears to be judicious for two reasons: first, to afford aid in diagnosis, by excluding fæcal impaction in the cæcum as a possible cause of the symptoms; and secondly, because any accumulation of fæces in the intestines increases the patient's suffering, and is doubtless liable to aggravate the existing inflammatory mischief. The propriety of using cathartics in this affection has been often doubted, and we are taught by some that here, as in the case of general peritonitis, they should be absolutely withheld. But the analogy between the two diseases is not very close, and experience has shown that the fear which has been expressed concerning the danger of cathartics in perityphlitis is unreasonable. Nothing can be gained, however, by their repeated administration; a single purgative, given in the beginning of the disease, will generally suffice to empty the

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bowels, while subsequent accumulation can be obviated by careful restriction of the diet, and by the selection of light, nutritious articles of food. The treatment thus briefly outlined has been occasionally supplemented by the use of blisters and mercurial applications, whenever the absorption of the inflammatory products appeared to be unduly retarded.

The recognition of the class of cases first described is important, on account of the erroneous opinion widely entertained, that perityphlitis, when once established, must necessarily proceed to suppuration. While this may, perhaps, be true when the disease is due to perforation of the intestine, with the consequent escape of its contents into the surrounding tissues, it is quite exceptional in those cases which owe their origin to the mere presence of hard and indigestible substances in the cæcum or its appendix, to the extension of catarrhal processes in the cæcum through the intestinal coats, to the effects of injury, or to causes which, with our present lack of knowledge, we are unable to define, but yet cannot refuse to acknowledge. Such cases, tending to recovery without suppuration are, as my own experience proves, by no means rare, and their relative frequency is doubtless greater than my figures would seem to indicate, inasmuch as the surgeon is apt to witness the severer, rather than the milder examples of the disease. Since many of them terminate favorably before the end of the first week, the question of the propriety of surgical intervention will often not arise, but when resolution is deferred to the tenth, twelfth or fourteenth day, or even later, it will often require nice judgment to decide whether to operate or not, especially as the surgeon is taught, in doubtful cases, to resort to the knife, without waiting to detect fluctuation, and not to delay the incision much beyond the first week of the disease. It must be evident, however, that the question of operation is one that cannot be settled by time alone, and that all the circumstances of the case should be carefully considered before resorting to a procedure which may be needless and possibly hazardous. This subject naturally leads to the study of the cases forming the second group, namely, those of abscess terminating in spontaneous recovery.

I have already remarked that in several cases included in the

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first series, the subsidence of the local swelling took place so rapidly that it was hard to believe an abscess had not ruptured and emptied its contents into some neighboring hollow viscus. But as an examination of the urine and fæces afforded no evidence in support of such a view, the question was necessarily left in doubt. In three instances, however, my notes furnish conclusive proof that such an event may happen and that it may be followed by complete and speedy recovery. Many years ago I attended a lady afflicted with an abscess in the cæcal region, which, at the end of the second week, was accompanied with alarming symptoms of general peritonitis. Suddenly a large quantity of pus was discharged at stool, and the patient, whose condition had hitherto seemed desperate, became immediately convalescent. In the year 1876, I saw, in consultation with Dr. Pierson, of Orange, a girl nine years of age, who had suffered during the previous eight days with the usual symptoms of perityphlitis. At the time of my visit I discovered a non-fluctuating, tender swelling in the iliac fossa. The severity of the general symptoms, as well as the abdominal pain and distension, led me to suspect the existence of an abscess, which I succeeded in demonstrating by employing the hypodermic syringe as an aspirator and withdrawing a small quantity of pus. I paid a second visit to the patient on the following day, intending to open the abscess in the usual manner, but found, on my arrival, that the tumor had almost entirely disappeared. I was informed that during the preceding night the child had grown rapidly worse and complained of intense pain in the region of the bladder. Soon afterward she voided a very large quantity of urine, and then at once became quiet and free from pain. Unluckily, the nurse threw away the urine without examining it, but we inferred that the abscess had ruptured into the bladder. In any case, it must have discharged its contents at the time stated, for on the following morning the tumor could hardly be felt, the pulse and temperature had declined to the natural standard, abdominal pain and distention had disappeared, and the patient had evidently passed the crisis. The third case I saw last year in consultation with Dr. M. R. Vedder. The patient was a girl thirteen years old, who had been attacked with perityphlitis a week previously.

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I found the usual tumor well marked in the iliac fossa, and also unusually prominent in the rectum. A purgative was prescribed which acted freely, and on the ninth day of the disease the swelling almost disappeared, and the fæcal evacuations, on being examined, were seen to contain a notable quantity of blood and pus. In this case the abscess probably broke into the rectum, and, as in the two other instances just related, the patient speedily regained her health.

These three cases prove that even when a perityphlitic abscess is left to itself, its course is not always unfavorable, but that its contents may be discharged into the intestine or possibly into the bladder, without any serious consequences. Indeed, it would appear that this mode of termination is adapted to secure the best possible result, for convalescence begins as soon as the abscess has ruptured, whereas, after an external opening has been established either naturally or by incision, the suppuration is always more or less protracted and the cure correspondingly retarded. Unfortunately we are unable, in any given case, to predict this result, which, moreover, is so exceptional in its occurrence that it does not invalidate the rule of affording vent to the matter by an external incision, so soon as the diagnosis of abscess is reasonably sure.

Cases of abscess treated by operation. This group contains eleven cases, the study of which reveals many interesting facts. The characteristic tumor in the iliac region was present in all the cases, but in only two was any swelling discoverable on digital exploration of the rectum. In four instances there was fluctuation. In one of these the date of operation was not recorded, but it was late in the disease, and the integument was extensively undermined, nevertheless the patient recovered. In the three remaining cases the abscess was opened on the fifteenth day, the seventeenth day, and at the end of the ninth week, respectively. The last named case, in which the operation was so long delayed, terminated fatally by septicæmia. At an earlier stage of the disease, and before fluctuation was evident, I proposed an exploratory incision, but the patient refused to submit to it. When, at last, the abscess pointed over the middle of the crest of the ilium, it had already burrowed extensively and acquired extra-

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ordinary dimensions. After being opened, it continued to discharge very copiously, and, in spite of the employment of antiseptic injections, septicæmia occurred and carried off the patient. The case is instructive as illustrating the danger of delay, for it is the only one out of the entire number embraced in the present group in which death followed the operation. Had the abscess been opened at an earlier period, a fatal termination would probably have been averted.

In the remaining seven cases that were treated by incision, fluctuation was absent, and there does not appear to have been any one symptom indicating that suppuration had taken place. Yet in only one instance did the knife fail to penetrate an abscess, a circumstance which shows that the diagnosis can be made out with tolerable certainty, even when demonstrative evidence is wanting. Rigor, sweating, high temperature, acceleration of pulse, abdominal pain and tympanites, and an increasing extent combined with diminishing firmness of the abdominal tumor, are the chief signs which indicate the formation of pus. But none of these signs is invariably present, and it would be a difficult matter to say which one of them is the most important. But although in the early stage of the disease it may be impossible to discriminate between the cases that are going to terminate by resolution and those that are to end in suppuration, the latter may usually be distinguished toward the close of the second week by the generally unfavorable condition of the patient, who seems to be growing worse instead of better; whereas, when resolution is about to take place, the later course of the disease is comparatively mild and favorable. In one remarkable case already mentioned, wherein the affection continued for many months and ended without suppuration, the combination of symptoms was never such as to demand surgical interference, although on two occasions I was nearly persuaded to undertake an exploratory operation.

The seven cases now under consideration were treated by incision as follows: one on the ninth day, two on the twelfth day, one on the thirteenth day, and two on the twenty-first day. In all cases except the first, the abscess was found and opened. In the one in which the incision was made on the ninth day, no

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abscess could be discovered, although the knife was carried through the fascia transversalis, and the hypodermic needle thrust in various directions in the hope of finding pus. After the operation the patient grew worse, and his life was despaired of, when, eleven days later, an abscess broke and discharged its contents through the wound. Perhaps, in this instance, the operation was serviceable by dividing dense structures which might have offered resistance to the progress of matter toward the external surface, but it would, of course, have been more gratifying if an abscess had been reached at once. Usually a perityphlitic abscess remains of moderate size until about the end of the second week, and by deferring an operation until it is ripe, we shall find the deeper textures consolidated and agglutinated by plastic lymph, and, therefore, less liable to be infiltrated by the fetid discharges which, after incision, often cause more or less sloughing of the margins of the wound. On the other hand, the danger that the abscess, if unrelieved, may rupture into the peritoneal sac must not be forgotten. Through the kindness of Dr. Wiener I have the opportunity of showing to the Society a specimen illustrating this unfortunate accident. On Tuesday last, Dr. Wiener was called to see a gentleman who had been ill for six days with perityphlitis. The characteristic tumor was present in the iliac fossa, and the case being regarded as one of abscess, arrangements were made to open the latter on the following day. During the night, however, in consequence, it is supposed, of some incautious movement made by the patient, rupture into the peritoneum took place, and death ensued ten days afterward. The bursting of the abscess was indicated by a disappearance of the tumor and by collapse, followed by the usual symptoms of acute peritonitis. I believe such an event as this is very rare, but the possibility of its occurrence must make us watchful and anxious until the crisis is past. Everything depends on an exact diagnosis and on an early recognition and treatment of existing abscess, and I would suggest a more frequent employment of the aspirator as affording the most reliable test at our command for purposes of diagnosis. The smallest needle will suffice, and can be repeatedly inserted, if necessary, without doing harm. By means of this instrument the situation,

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as well as the presence of an abscess, can be determined, and it is well known that these collections of matter do not always occupy the same locality.

In every case that has fallen under my observation, the operation has been performed essentially in the manner recommended by Dr. Parker. An incision several inches in length, and usually parallel with Poupart's ligament, was made over the most prominent part of the tumor, through the skin and sub-cutaneous fat. Subsequently the deeper layers were divided until the abscess was reached, or until the fascia transversalis came into view. If fluctuation then became evident, the abscess was immediately opened, otherwise the fascia was penetrated in various directions by means of a hypodermic syringe until the seat of the abscess was discovered, when the operation was completed by entering a narrow bistoury alongside of the needle. I have no doubt that this method of operation, wherein the aponeurotic and muscular layers composing the abdominal wall are successively and cautiously divided is better than the plan which has been proposed of plunging a bistoury directly into the abscess and then enlarging the wound as the knife is withdrawn. Such a course can only be proper when fluctuation is present, and the matter lies near the surface. Nevertheless I would avoid the extensive incisions which are sometimes recommended, and which have been known to be followed by hernial protrusion. An external incision of two inches will afford ample space; and the wound should grow narrower as it increases in depth, while the direct opening into the abscess need not be larger than will readily admit the forefinger. This I think it desirable to insert, in order to ascertain the extent of the cavity, and to detect, if possible, the presence of foreign bodies or fæcal concretions. When these are found, they should always be removed; otherwise they may cause future trouble. In a case which I treated by incision several years ago, the patient did well after the operation, and returned to his work. About a month later, however, suppuration recurred, the wounds re-opened, and allowed the escape of a small fæcal concretion, the discharge of which was followed by a permanent cure.

Concretions were found in four out of the eleven cases treated by incision. One of them was large, and resembled in size and

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shape a date pit; the others were small, and, like the large one, consisted of inspissated fæcal matter, arranged in the form of concentric laminæ. One of them contained a few raspberry seeds, and in one instance, eight concretions, evidently formed in the appendix, were obtained from a single patient. Probably similar formations existed in other cases, but were overlooked and thrown away with the discharges. The contents of the abscesses were always exceedingly fetid, had a fæcal odor, and were more or less gaseous, rendering it probable that the intestine had been perforated. It is not a little remarkable that these perforations of the intestine, evident in some instances, and probable in all, invariably closed, for in no case did a fistulous track remain as a sequel of the operation. In the earlier cases the abscesses were kept clean by daily injections of tepid water; in the later ones a drainage tube was inserted and the injection made antiseptic by the admixture of carbolic acid.

My notes contain several cases in which perityphlitis occurred more than once in the same patient. In one of these the second attack, which terminated by resolution, took place thirteen months after a successful operation for abscess. No concretion or foreign body was found at the time when the abscess was opened, and it is possible that the retention of some such extraneous substance may have caused the subsequent trouble. This supposition is favored by the history of two other cases given in the table, in one of which there had occurred within a period of two years no fewer than three attacks of perityphlitis, the last one only ending in abscess. In the other patient an abscess formed two and a half years after a sharp attack of perityphlitis, terminating in resolution. In both, fæcal concretions were discharged from the abscess; and it is fair to presume that these had been the cause of the previous attacks. Such cases teach us that we should be guarded when giving a prognosis respecting the liability to a recurrence of the disease, after recovery has taken place by resolution. If the appendix contains a concretion, this will probably excite renewed irritation until the offending substance is discharged by suppuration.

In opening perityphlitic abscesses, in which fluctuation could not be detected, I have always proceeded with caution, for fear of

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wounding the peritoneum or the intestine; but I am doubtful whether such caution is absolutely necessary. Whether in consequence of the fact that these abscesses contain gas, or because they are adjacent to the intestine, they often yield a tympanitic sound on percussion, giving one the impression that the intestine is close at hand. But I have never observed this to be the case on opening the abscess, which is frequently so large that the forefinger inserted into it can barely touch the cæcum, displaced from its normal situation toward the median line.

It is generally assumed that when abscess results from perforation of the appendix, the matter is contained in the peritoneal sac, a portion of which is shut off from the rest by adhesions between the intestines, the parietal peritoneum, or the omentum. That the abscess may be thus constituted I am well aware; but I believe that such a mode of origin is quite exceptional, and that when, in consequence of intestinal perforation fæcal matters escape directly into the peritoneal cavity, the result is almost invariably a diffused septic inflammation of the peritoneum, ending in speedy death. Pathological anatomy has shown the possibility of another mode of abscess-formation, which I believe to be far more common. The vermiform appendix, before becoming perforated, may contract adhesions to the peritoneum lining the iliac fossa, on which it usually rests. Consequently, when the coats of the appendix have been destroyed, the ulceration extends through the apposed layer of peritoneum in such a manner, that the fæcal matters, instead of entering the serous sac, gradually pass into the loose connective tissue which lies outside the peritoneum, and there set up suppurative inflammation. The pus, as it accumulates, may burrow behind the cæcum and ascending colon; or it may descend behind the peritoneum into the pelvis; or, as most often happens, it may occupy more or less completely the iliac fossa. In the latter case, the serous membrane, which is here very loosely adherent to the iliac fascia, will be detached and deflected toward the median line, carrying with it, in the same direction, the cæcum and the small intestine. Here there will be little danger of wounding the peritoneum while opening the abscess, provided the operator avoids the upper and inner margins of the tumor, where the serous membrane forming the

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boundary of the abscess is reflected upon the anterior abdominal wall. Of course, in the event of an erroneous diagnosis, grave accidents might occur, for an incision which, in the case of abscess, would simply enter the suppurating cavity, might otherwise penetrate the peritoneal sac and perhaps also involve the intestine. The aspirator offers, as has been stated, the best safeguard against such a blunder, and should invariably be employed in doubtful cases.

I have but a few words to add concerning the fourth and last group of cases, those in which the abscess terminated fatally, without discharging its contents either internally or externally. This group comprises only two cases, both of which possess features of interest. One of them I saw six years ago, in consultation with Dr. Smith Ely, of Newburgh. The patient was a gentleman forty-eight years of age, who after having suffered for some time with the symptoms of inflammation in the region of the cæcum, was seized with general peritonitis. At the time when he came under my observation, I found the abdomen greatly distended, but could discover no tumor in the iliac fossa or in the rectum. He declined to submit to the usual exploratory operation, but allowed me to cut through the skin and the thick subcutaneous fat, and to insert the needle of a hypodermic syringe into the deeper tissues. This was done with a negative result. Death occurred from peritonitis, and a post-mortem examination revealed an extensive abscess behind the cæcum and ascending colon, reaching as high as the under surface of the liver, and communicating with the intestine through an ulcerated opening in the posterior wall of the cæcum. The abscess was filled with pus and blood, and did not open into the peritoneum. The vermiform appendix was intact. This case, as well as the one I am about to relate, shows that a perityphlitic abscess may be situated altogether behind the colon, and suggests the propriety of inserting an aspirating needle through the posterior wall of the abdomen, when the symptoms of perityphlitis are present without the development of the usual iliac swelling. Should matter be found, it could then be evacuated by an incision like that usually made in the operation of colotomy.

The second patient, a gentleman forty years of age, I saw in

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consultation with Drs. Rodenstein and Otis. The history of the disease pointed clearly to perityphlitis, but there was no tumor. Digital exploration of the rectum failed to discover any swelling, but detected slight tenderness high up on the right side. On the fourth day the patient became somewhat delirious, and on the sixth day he had a convulsion. From that time until his death, which took place on the sixteenth day, the symptoms were those of cerebral inflammation, the patient dying comatose. A post-mortem examination discovered the changes in the brain characteristic of purulent meningitis; and the disease in this case seemed to be pyæmic, for, on opening the abdomen, an abscess containing eight ounces of fetid pus was found situated in the lumbar region, behind the cæcum and ascending colon. The abscess communicated with the vermiform appendix, which was the seat of a double perforation. No tumor existed in the iliac fossa. There were no evidences of peritonitis except the presence of some adhesions connected with the appendix.

The early supervention, in this case, of acute cerebral inflammation would have prevented the success of any surgical operation, even had the situation of the abscess been known during life. But the case is instructive as showing that a perforating ulcer of the appendix, like a similar ulcer in the back of the cæcum, may give rise to an abscess in the lumbar region that cannot be discovered by the ordinary method of examination.—*Annals of the Anat. & Surg. Soc'y*, July, 1880.

SOME PRACTICAL REMARKS ON CHRONIC RHEUMATISM.* By WILLIAM PEPPER, M.D., Professor of Clinical Medicine in University of Pennsylvania.

As the remarks I propose to make to-day are purely of a practical character, I shall be able to avoid all discussion of disputed theoretical points. Nor have I any idea of attempting a description of all the varieties of chronic rheumatism so-called, or a recital of all the innumerable remedies recommended for their

* Read before the Oxford Medical Society, July 21, 1880.

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treatment. My only object is to try to sketch a few of the groups of cases that come most frequently under my observation, and to mention the practical lessons I have learned from their study.

In the first place, while it is undoubtedly true that some cases of so-called chronic rheumatism are really rheumatic in nature, it is equally certain that others are not so. It seems to me too much the custom to call a case one of chronic rheumatism simply because the seat of the disease is in one or more joints. It is true we are entirely ignorant of the essential nature of rheumatism, but at least all agree in considering that it is a general or constitutional disease, and that the articular affections are merely its local manifestations. On the other hand, it cannot be doubted that the different tissues entering into the formation of a joint are liable to various other sorts of diseased action. Gouty or syphilitic inflammation may occur; traumatic irritation is very common, and simple idiopathic inflammation from ordinary causes, such as damp, changes of weather, etc., may occur here as elsewhere. In addition to this, it would be found on careful examination, I am sure, that many painful affections of tissues near joints are commonly called rheumatic, although the joints proper are themselves not involved, unless secondarily.

Among the cases that may be selected in illustration of these remarks, I have met with a strikingly large number where the shoulder joints have been affected. The symptoms with which such patients have presented themselves have been pain referred to the shoulder joint, and inability to make the ordinary movements of the arm, particularly to raise it above the head or to put the hand behind the back.

In the majority of cases only one shoulder is affected, but I have met with a good many instances where both were involved. Sometimes the affection has been of a rheumatic character, and either originally formed part of a general articular disease, or was from the first the only local manifestation of a constitutional disturbance. But frequently no such rheumatic element could be assumed positively; but the affection appeared purely a local one. The cause has occasionally been traumatic—as a fall, striking on the open outstretched hand, or so as to drive the head of the humerus violently against the glenoid cavity, or so as to put on

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the stretch and irritate the synovial capsule and the nerves which pass in close proximity to the joint. The same result has been caused by a blow on the shoulder, or by a sudden and violent muscular exertion. In other cases, a sudden chilling of the surface while overheated, as by a cool draught blowing on the shoulder, has excited the inflammation. Sometimes the trouble has come on very insidiously, by the repetition of trifling and almost unnoticed irritations, until finally a state of positive disease is established. But, however excited, the anatomical conditions and the symptoms are similar.

Pain is, as I have said, a constant symptom. It is often worse at night, and interferes much with sleep. It is of a wearing, sickening character, and is increased by attempts at motion or by allowing the arm to hang downward. The head of the humerus quickly assumes the position of a slight subluxation forward and downward. Pressure with the finger along the course of the brachial plexus constantly reveals decided local tenderness of the nerve trunks, due to a neuritis or perineuritis that has resulted either from the original cause of the attack, or from an extension of inflammation from the synovial capsule. In case the head of the humerus is allowed to occupy its unnatural position, the irritation of the nerve trunks is greatly increased by the pressure of the head of the bone, and the secondary neuritis becomes more serious and extensive. The circumflex and the median nerves are those most commonly involved. The pain now radiates along the course of these nerves and especially extends down the arms and into the fingers; a feeling of numbness and tingling, or burning, is apt to accompany it. Liquid effusion into the synovial capsule is rare, but a tendency to adhesive inflammation rapidly shows itself, and in a wonderfully short time slight, false anchylosis develops, which, if neglected, grows more and more close and firm, holding the head of the humerus with constantly increasing force in its abnormal position. From the very first, the power of movement of the arm is much impaired. The hand and forearm do not share in this; but the arm can be lifted only a short distance from the side, so that the hand cannot be fully elevated. Rotation of the humerus is prevented so that the hand cannot be carried behind the back. The patient soon finds he

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cannot use the hand on the affected side either in eating or in dressing.

The angle to which the arm can be raised varies greatly in different cases, and in testing the power of motion it is necessary to guard against error by fixing the scapula by firm pressure, since otherwise the patient will unconsciously deceive by tilting the thorax toward the sound side, and thus apparently bringing the humerus on the affected side to a higher level.

The cause of this impaired mobility is at first the instinctive avoidance of pain and the lessened power of the deltoid from the irritation of the circumflex nerve, which is distributed to this muscle. But other influences soon come into play. Adhesions form and hold the head of the bone more and more firmly; the deltoid soon begins to waste from disuse, and the inflammation of the circumflex nerve impairs the nutrition of the muscle and hastens its atrophy. The dependent position and disuse of the arm, and the interruption of circulation caused by the pressure on the veins, lead to passive congestion and œdema of the hand and forearm. If a descending neuritis is established in the ulnar and median nerves, atrophy of the muscles of the forearm and hand ensues ere long, and, finally, a most helpless condition of the member is brought about.

Brief notes of a few illustrative cases may be interesting:

CASE 1.—Mr. S. R. S., æt. 50, banker, fell on ice, and holding out left hand to save himself, felt a sharp pain in left shoulder joint. When seen, two days later, there was inability to lift left arm more than to angle of 45° from body, and that was very painful. There was exquisite tenderness over the brachial plexus; the circumflex nerve felt swollen, and was especially painful. The arm was supported so as to carry upward and backward the head of the bone. Passive motion was begun at once, and continued daily so as to prevent adhesion; a blister was applied over the inflamed nerve trunks; iodide of potassium and bichloride of mercury given internally. In a few days the soreness was greatly relieved, and then Faradic electricity was applied daily to deltoid; more thorough passive movements were practiced, and a very rapid cure followed.

CASE 2.—George Kiegel, æt. 57, carter, came to me on April

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24, 1877. The month previously began to notice pain in right shoulder; shortly before that had fallen on the ice. The aching pain continued, and in two weeks he had to give up work, and in two weeks more he could not dress himself. The case had been regarded as one of rheumatism. The arm had been kept quiet, and internal and local remedies used. The pain and helplessness steadily increased. When I first saw him, he could not lift humerus from side at all. The deltoid was markedly atrophied. The head of the humerus was in advance of its normal position, and was very firmly held there by strong adhesions. There was intense tenderness with marked swelling of the nerve trunks in front of the head of the humerus. There was severe pain about the shoulder, also extending down the arm along the course of the nerves, most acutely felt at elbow and at interphalangeal joints. This latter pain was much increased by closing the hand. There was numbness of hand and arm, and occasionally the hand became swollen. Unquestionably storms and sudden changes of weather increased pain, numbness and weakness. With dynamometer right hand gave only 40; left hand 110. Iodide of patassium, gr. v, t. d.; repeated blistering over the inflamed nerve trunks; persistent graduated passive movements until adhesions were all stretched and broken, and then faradization of deltoid and shoulder group of muscles, constituted the treatment. By June 12, 1877 (seven weeks), the arm could be moved passively in all directions; the deltoid was regaining its size and power, and power of movement had returned to a great extent, although he was not yet allowed to work. R. hand with dynamometer 100. Pain entirely relieved.

CASE 3.—Mrs. M., from Chester, Penn., æt. 45, accustomed to doing rather laborious housework, applied to me in 1875 for the relief of extreme pain in the right arm, combined with total helplessness. She had evidently taken cold repeatedly while overheated, and had had repeated slight attacks of pain about the right shoulder joint. Finally the pain grew so severe that she was obliged to give up work, and soon she found herself unable to lift her arm from her side, or lift her hand to her head to feed herself, or to use it in dressing herself; and finally it grew almost entirely useless. During this time she suffered constant pain.

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It was of a wearing, dull character, in the shoulder joint, frequently shooting down the arm to the fingers, and was so severe at night that she scarcely slept at all; and her general health had suffered greatly, with much loss of flesh in consequence. The condition had lasted for several months when she first consulted me. She stated that she had been treated for chronic rheumatism, and that she had been recommended to keep the arm at rest. There was advanced atrophy of the right deltoid muscle, and the application of the faradic current, or of a slowly interrupted galvanic current, caused scarcely any contraction of its fibers. The head of the right humerus was firmly fixed in a position of slight subluxation forward and downward, and any attempt to rotate it, or to elevate it in any direction, met with firm resistance, and caused intense pain. The cords of the brachial plexus were swollen, hardened, and exquisitely tender. The muscles of the right arm and forearm were somewhat atrophied; the hand was puffy and swollen, and there were severe complaints of burning and tingling pain, with numbness down the arm and through the hand. Systematic manipulation of the arm, directed toward breaking up the adhesions, was used at intervals of about five days, despite the intense suffering caused. After each treatment, however, the pain was lessened, and mobility was increased.

She was also exhorted to use the arm as much as possible, carrying her efforts as far as her endurance would enable her to do. Repeated blisters along the inflamed nerves were used; the whole shoulder was enveloped in a batt of wool saturated in a strong liniment of chloroform and aconite. Iodide of potassium and bichloride of mercury were given internally. After some degree of mobility was restored, massage of the deltoid, with occasional faradization, was used.

Electromotor contractility gradually returned, and the muscle gained in bulk satisfactorily. Treatment extended over three months, by the end of which time pain was entirely relieved, and she was able to use her arm quite freely. She was directed subsequently to continue regular gymnastic exercise with it, so as to thoroughly complete the restoration of motion and power, and

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I learn now (June, 1880), that the arm has long since returned to its normal state.

I could quote from my case-books the records of a very large number of instances presenting the same essential conditions as the last; but I will only tax your patience by reading the notes of one of a different type, although illustrating some of the same points.

CASE 4.—Mrs. R. A., sent to me Sept. 4, 1875, from Belmont county, Ohio. She was about 40 years of age, and had enjoyed general good health. Two years previously, numbness in both hands came on quite suddenly, and gradually grew worse, extending up arms to shoulders. There was gradually increasing weakness of arms, and frequent aching pain, especially before changes in the weather, in shoulders and down arms. The case had been regarded as one of chronic rheumatism; she had been directed to keep the arms as quiet as possible; liniments had been used and anti-rheumatic remedies given internally. The left arm was the worse. The deltoid was considerably atrophied, and quite close anchylosis of the shoulder joint existed. The muscles of both arms, especially the left, were decidedly atrophied.

Unquestionably the beginning of this interesting case was a rheumatic neuritis of the nerve trunks (medians or ulnars) in both arms, which ascended until it reached the circumflex nerve and the brachial plexus. Partial loss of power of the deltoids (particularly the left) had combined, with intentional disuse, to allow the head of the humerus to remain comparatively motionless, until adhesions formed between it and the glenoid cavity.

Passive movements until all adhesions were broken up; regulated massage and exercise; persistent counter-irritation along course of inflamed nerves; the use of the constant galvanic current, and the internal use of iodide of potassium with small doses of bichloride of mercury, was the treatment directed. The patient returned home at once, and the result is unknown.

It is not only in reference to affections of the shoulder joint that a careful study of the adjacent nerve trunks is important, but I know no other joint where arthritis is so apt to be associated with neuritis. Sometimes the neuritis is the primary trouble, and the joint becomes involved secondarily; more com-

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monly, the arthritis precedes and a secondary neuritis from extension of irritation ensues. The essential point, however, is to recognize the two elements and to adapt the treatment accordingly. If the case be seen at an early stage, before any anchylosis or atrophy of the deltoid has resulted, a rapid cure can be effected by the use of a suitable bandage to support the arm and carry the head of the humerus upward and backward, thus obviating any pressure on the nerves or vessels; by active counter-irritation along the course of the nerve trunks if they are found tender and swollen; by the internal use of full doses of quinia, together with iodide of potassium and bichloride of mercury; and, as soon as the acute inflammation is subdued, by the application of a galvanic current, the positive pole being placed over the affected nerves and the negative pole over the deltoid muscle.* But while these measures are being carried out, it is essential that as soon as the acute stage has passed by (say after the first two or three days), gentle and gradually increased passive movements of the arm should be practiced.

But, in my own experience, such cases have much more commonly come under observation at a later stage, and when more or less serious changes have occurred. The first point of importance, then, is the diagnosis, and there are several conditions with which it is possible to confound the affection we are considering. In the first place, finding the head of the humerus somewhat displaced from its normal position, the shoulder decidedly flattened, and the movements of the arm much restricted and painful, and learning possibly that some fall or twist had preceded the trouble, the idea would naturally occur of a subluxation of the humerus. Indeed, as I have already said, there does come to be a slight degree of subluxation, and in very chronic cases where immobility has been allowed to continue for a long time, the glenoid cavity undergoes such changes as to render it impossible for the head of the humerus ever to resume its normal position. But I have known cases where, after the acute stage had been injudiciously

* We owe to Remak the demonstration of the great value of the constant current thus applied in cases of articular neuritis, accompanied with paresis of the deltoid. See his noteworthy "application du courant constant au traitement des névroses," Paris, 1865, pp. 41. Extracted from *Revue des Cours Scientifiques.*

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treated with the usual result of anchylosis, the patient has fallen into the hands of unscrupulous charlatans or ignorant bone-setters, who have been shrewd enough, however, to recognize the necessity of forcible motion of the joint, and then, on finding, after one or two sharp cracking sounds have been distinctly perceived, that the bone returns more nearly to its normal position, and that marked improvement in the power of movement has ensued, have advanced the theory that the case has been one of neglected subluxation from the first, and that damages for malpractice should be claimed. Such an error would be impossible at the early stage of the case; and later, by careful attention to the history and evolution of the case, and by observing that the restriction of mobility is not only in the direction that would result from a subluxation forward, and that just in proportion as the adhesions are broken up by gradual passive exercise, normal mobility returns, it is possible to avoid any mistake.

I have repeatedly known such cases to be regarded merely as paralysis with atrophy of the deltoid, and a treatment of persistent faradization, hypodermic injections of strychnia, etc., to be carried out, but, of course, without any result, because the cardinal fact was overlooked that the paralysis and atrophy of the deltoid (which undoubtedly existed) resulted from: 1st, neuritis of the circumflex nerve, excited and maintained by the articular trouble and the abnormal position of the humerus; and 2d, by disuse owing to neglected anchylosis of the shoulder joint. The mode of development of the case, the early impairment of motion in directions not requiring the action of the deltoid, the pain and tenderness, and, finally, the anchylosis—all render easy the recognition of the true nature of the case, and show that the conditions of the deltoid are purely secondary.

The mode of treatment that succeeds, even in very bad and long continued cases, has been, perhaps, sufficiently alluded to in the brief records of several cases already given. A few words may be added, however, in regard to some of the points.

Systematic passive movement and massage are the most essential parts of the treatment. Without these to free the head of the bone from its abnormal position and relieve pressure on the nerves and vessels, all else must fail utterly; while just in pro-

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portion as the adhesions are broken up, all other symptoms improve. I may say that, in my experience, etherization and the forcible breaking of the adhesions has never resulted as favorably as their more gradual destruction by repeated, comparatively gentle passive movements. Used with the utmost care, however, great suffering is always caused; but this must be disregarded, and the manipulations be steadily persisted in, since all delays increase the atrophy of the muscles and render a cure less hopeful. In addition, the patient should be encouraged to use the arm as much as possible, instead of being allowed or directed to keep it quiet.

Pain is often intense. I have frequently known the general health suffer gravely from the interference with sleep. The removal of the adhesions is the surest mode of affording relief; but more immediate methods are needed. The hypodermic injection of morphia and atropia, the application of strong veratria ointment, or of a strong liniment of aconite and chloroform, and the application of the constant galvanic current are the most prompt and reliable remedies.

Neuritis is so common a complication that the condition of the nerve trunks (especially the circumflex and the median and ulnar) nearly always calls for treatment. Repeated small blisters along the course of these nerves, and the use of the galvanic current in the way already mentioned, i. e., with the positive pole over the irritated nerve trunk, and the negative pole over the fibers of the deltoid, is the best treatment, combined with the internal use of iodide of potassium with small doses of mercury. I should not limit the use of these remedies to those cases only where a rheumatic element clearly exists, but would recommend their use generally for the relief of the chronic arthritis and of the inflammatory swelling of the nerve trunks.

As a further illustration of an analogous form of articular and neural trouble, although involving a different member, the following interesting case may be cited:

CASE 5.—Mr. D., of Mahanoy City, age 38, has never had syphilis, but has been much exposed to wet and cold. In August, 1877, began to suffer with pain and swelling of the right knee, and with pain in the muscles of the back, and extending thence

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around the limb, and down the front of the right thigh as far as the knee. On August 18th the pain became very violent, and he was confined to bed for five weeks; since then it has not been so violent, though subject to frequent severe, sudden shocks. There has also been constant pain about the right knee and along the thigh. He consulted me November 1, 1877. The right knee joint was swollen, with some effusion, painful and stiff. The anterior group of thigh muscles were weak and decidedly wasted. Marked tenderness existed along the course of the anterior crural nerve. The urine presented a heavy deposit of urates. A plaster of ammoniac and mercury was applied over the knee; blisters were applied along the course of the affected nerve; mild faradization of the muscles of the thigh was employed daily; and internally iodide of potassium, three grains, increased to six grains, with Donovan's solution, ten drops, thrice daily, were given. In the course of two weeks improvement was marked, and went on steadily to complete recovery. When last seen, in September, 1879, he remained perfectly well.

I have dwelt thus minutely on this form of articular trouble, not only because I am led to believe it is a rather frequent affection, and one which does not always receive prompt recognition and appropriate treatment, but because it seems to me to illustrate clearly the important points: that painful articular affections are by no means always of a rheumatic character; that many of the symptoms connected with articular affections may be due to implication of surrounding tissues, and particularly to inflammation of adjacent nerve-trunks; that the paralysis and atrophy of muscles connected with the affected part, which constitute most serious complications, are often attributable to the influence of a neuritis, more than to that of prolonged inaction; that in many cases of arthritis without liquid effusion there is a strong tendency to the formation of adhesions; and that this false anchylosis, particularly where, as in the shoulder joint, the bone becomes fixed in an abnormal position, constitutes a serious complication and should be prevented by an early resort to gentle, systematic passive movements.

In connection with this most important and difficult question of when to use rest and when to use movement in the treatment of

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articular affections, I will allude briefly to the subject of rheumatoid arthritis. It is clear that this interesting disease has no direct relations with either acute articular rheumatism or with true gout. But it has unmistakable analogies with conditions that must be grouped under the name of chronic rheumatism. It attacks persons who, whether from inherited tendencies or from acquired weakness, present conditions of depressed vitality with abnormal sensitiveness to the action of damp and climatic changes. In my own experience, by far the most common and demonstrable cause has been residence in a damp house or a damp locality, operating on a system enfeebled by such depressing influences as excessive child-bearing and sexual exhaustion, or as a severe prostrating illness, such as typhoid-pneumonia. There seems to be developed gradually, perhaps in consequence of the defective action of skin caused by the prolonged action of damp or by repeated chillings of the surface, a morbid state of the synovial tissues, and to a greater or less degree of the subjacent articular cartilages. One joint after another becomes involved, with a certain regard to symmetry, but without regard to the size or locality of the joints. Some effusion occurs at first into the synovial capsules, but later this is apt to be absorbed; the synovial membrane is thickened and roughened; in places destruction occurs both of the membrane and of the subjacent articular cartilage. Meanwhile the margins of the joints are involved, and ridges or nodules of new-formed bony tissue appear; the fibrous tissues become thickened, and the tendons no longer play freely through their sheaths; the whole joint becomes more and more distorted and useless; motion grows more and more painful and difficult; finally, firm anchylosis occurs with great deformity, and the functions of the joints are utterly destroyed. One point of very great practical importance in connection with these cases has not been sufficiently noticed. It is the fact that the subacute inflammation extends from the surrounding fibrous tissues to the sheaths of the nerves, and an ascending and descending neuritis is apt to be set up. Not only does this complication cause a serious addition to the suffering in the form of pain radiating along the course of the affected nerves, but it induces grave nutritive changes, such as a

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more rapid and extreme atrophy of the muscles than would result from mere disuse, and even degenerative lesions of the skin and nails. The terrible state of helplessness to which the unhappy victims of rheumatoid arthritis are brought, in the later stages of the malady, is familiar to you all, and is well illustrated by this sketch of a patient now in the ward of Phildelphia Hospital, for which I have to thank the skillful brush of my friend Dr. J. M. Taylor.

It is needless to say that by the time a patient reaches any such condition as this, he is far past all hope of real relief from medical treatment. But in the earlier stages I have had numerous occasions of late years of seeing what vast improvement can be effected by systematic treatment of a certain character. I began the study of rheumatoid arthritis with the idea that it was a hopelessly incurable disease. I was aware that every remedy in the pharmacopœia had been used without positive benefit in its treatment. I can add my testimony, after prolonged and faithful trials, that little is to be expected from any of the well-known anti-rheumatic remedies in rheumatoid arthritis. And yet I have become satisfied that in many cases—and I mean to include severe cases and quite advanced stages of the disease—vast relief can be afforded to the symptoms, the progress of the disease can be checked, and even a considerable degree of usefulness be restored to badly crippled joints.

The notes of the two following cases may be cited here as illustrative, both of the symptoms of rheumatoid arthritis and of the general features of the plan of treatment to which I beg to call your attention:

CASE 6.—Mrs. C., living near Woodbury, N. J., came under my care in March, 1878. There had been no rheumatism or gout among her grandparents, uncles or aunts. Her father died of palsy at seventy-two, her mother of puerperal fever at thirty-nine. She had herself one sister who began to have arthritis at three years of age, and ended by having her joints greatly distorted; finally the disease became inactive, and she lived to the age of thirty-eight years, when she died in childbirth. Mrs. C. herself always enjoyed good health. She was always very sensitive to changes of weather, and required a great deal of cloth-

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ing. She ceased menstruating at the age of forty-nine. About the same time she was subject to great mental distress. While passing through the menopause she noticed subacute inflammation of the right great toe, which soon spread to the joints of other toes, and then invaded the wrists and hands, then the knees, then the hips, and at last extended to the elbows and shoulders; the ankles alone were never much affected. The pain in the affected joints was very violent, especially at night; it was apparently influenced by atmospheric changes. It was chiefly seated in the affected joints, but there were also at times lancinating pains along the members. There was marked wasting, with great loss of power of the muscles connected with the affected joints.

There was marked deformity of many of the joints, of the character typical of rheumatoid arthritis. She did not suffer with headache and there was no spinal tenderness, but there was pain in the lower part of the spine. She was confined to a rolling chair. She could move her arms at the shoulders pretty well, but the elbows were very stiff and the wrist rigidly fixed. The legs were fixed at a right angle so firmly that great force was required to elevate them, and motion caused extreme pain. There was marked wasting of the extensor muscles of the thighs, with great tenderness on pressure along the course of the nerves and at certain points along the shafts of the femurs. There was no cardiac disease.

The patient was removed to the University Hospital, where she remained for thirty days, and then returned to her home in Woodbury. Systematic manipulation of the affected members was practiced daily, with forcible movements of the stiffened joints. This movement was effected partly by skillful massage, partly by various mechanical appliances. She was especially urged to make regular muscular exertions herself, and to use the appliances provided to effect as much motion of the joint as possible. A considerable portion of every day was consumed in this regular gymnastic work. At first very limited motion only was possible, but gradually all the joints except the wrists yielded and became much more movable. Regular daily frictions of the whole surface with oil, and twice weekly with

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alcohol, were also used; extreme care in dressing was urged, as also in regard to exposure to draughts or to sudden changes of temperature.

Thorough treatment by faradization of the whole muscular system was carried out on alternate days. Internally she took nitrate of silver and small doses of opium and belladonna, given in pill form, thrice daily, until 30 grs. of the silver salt had been taken; and, after an interval of three weeks, another course of 20 grs. was given. Dialyzed iron in doses increasing up to one fluid drachm, thrice daily, was given steadily for a long time. In the intervals between the courses of nitrate of silver she took iodized cod liver oil.

When she left the hospital she was acquiring gradually increasing power of motion in her joints, and the wasted muscles were gaining in size and strength. She had begun to walk with but slight assistance. Subsequently the same line of treatment was carried out with most gratifying results. The pain was almost entirely relieved, her general health became much better, and at the last time I heard from her she was able to move her joints even more freely than at any previous time of her sickness.

I will also give a brief abstract of the notes of the following interesting case, because it was an example of great benefit obtained in an apparently hopeless state (and because the patient may perhaps be well known to some of my hearers).

CASE 7.—Mrs. S., of Wakefield, Lancaster Co., Penn., lived in a house which was probably quite damp, and at the age of twenty-seven, while feeling somewhat run down, she had a severe attack of pneumonia of the left lung, ten days after which she was taken with inflammation of the left shoulder and elbow, soon followed by inflammation of both knees and hips. The pain was very acute even during entire rest, especially so at night, and was much increased by motion. Since then the disease had progressed with acute exacerbations at irregular intervals, at which time new joints became affected, and those already diseased became worse. In the intervals the acute symptoms would subside to some degree. At the time of the exacerbations there was usually some fever. The urine had frequently shown deposits of urates. The general health suffered severely; there was great loss of

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flesh, color and strength; sleep became very poor, being disturbed by pain, and also by painful contractions of the flexors of the lower extremities. During several months previous to my first seeing her, these contractions were especially severe. There was tenderness over one point of the lumbar spine, but no evidence of spinal disease. The habit of using morphia freely had existed for a considerable time. On admission to the University Hospital, October 23, 1877, the disease having lasted six years, Mrs. S. was almost entirely helpless, at the age of thirty-four. She was confined to her chair, being entirely unable to straighten herself or to stand. There were stiffness and impaired motion of the cervical spine. There were excessive pain and tenderness of the affected joints, all of which presented the most characteristic changes and deformities of rheumatoid arthritis. These consisted of swelling and deformity; within some a moderate amount of effusion in the synovial sacs, and in others stiffness or firm anchylosis; lesions of the synovial membrane and articular cartilages as shown by crackling and crepitus on motion; and, finally, new bony formations around the margins of the affected joints. There was advanced wasting of the muscles nearly all over the body. An imperfect response was given to faradic currents. Pain was extreme, and although her endurance was heroic, the nervous system was considerably disturbed. There were extreme pallor and marked emaciation, the weight being only 104 pounds. Not only were the legs immovably fixed, but the arms were likewise crippled so that she could not feed herself; and the hands were entirely useless. The contractions of the legs, already noted, were very marked and painful. They came upon her frequently and without any cause, although effort would always provoke them. Owing to the stiffness of the knee-joints they did not cause very much drawing of the legs upward, but the flexor muscles could be seen or felt to contract in a sudden spasmodic manner, and then to soon relax more slowly and irregularly. In addition to these large muscular contractions, sudden jerking movements of the fingers were noticed. Even those which were dislocated in consequence of the articular changes, would be suddenly seized with jerking, and would shake rapidly

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and uncontrollably. Fibrillar contractions of the muscles of the hands and of the forearms had been noticed for a year past.

Her diet was very carefully regulated, and she was encouraged to take largely of light nourishing food, in addition to considerable amounts of milk.

A pill of nitrate of silver, gr. ¼, extract of opium gr. ¼, extract of belladonna gr. ⅛, t. d. p. c., was ordered. Daily inunctions of oil, with massage of the whole muscular system, and systematic manipulation of all the affected joints, were faithfully kept up.

Mechanical appliances were devised to gradually break up the adhesions of the larger joints, and arrangements were made by which, as soon as a little movement in any joint was secured, systematic exercise of the muscles attached, could be maintained. The muscles were carefully and gently faradized.

In the course of a month there had been considerable improvement. The appetite was better, and she had commenced to gain much flesh. There was less tendency to exacerbations, and her pain was diminished, so that she could sleep fairly well without morphia and with diminishing doses of opium in her pills. The joints had yielded to manipulation better than seemed possible, so that movement was returning in many of them, and their enlargement was diminishing. The muscles responded better to electricity. Spasmodic contractions of the legs at night continued, but this was relieved by bromide of potassium. She began to take dialyzed iron about December 1st, and took it for many months; it was impossible, however, to give it to her in larger doses than fifteen to twenty drops, thrice daily, for when increased beyond this it caused looseness of the bowels. She took 40 grains of nitrate of silver continuously, then stopped it for several weeks, and resumed it, taking 15 grains more; and this she repeated until she had taken in all about 75 grains while at the hospital. Her improvement was slow but steady; by February 1st her weight had increased to 114 pounds. Marked improvement had occurred in the power of motion, and in the anatomical condition of the joints. She became able to help herself in many ways, and finally to walk about with the assistance

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of the Darrach wheeled crutch. She left the hospital in the summer of '78, to return to her home, where the same treatment was to be carried out.

By December 15, 1879, her weight had increased to 140 pounds—a gain of fully 36 pounds since she first came under my care.

She was almost free from pain; her functions were all well performed, and there was great improvement in the mobility and power of motion of nearly all the joints. She was able to walk considerably with the apparatus named, and could also run a Howe's sewing machine herself. Massage and inunctions had been steadily continued, and faradization had been used occasionally.

She had been taking dialyzed iron constantly for over two years, and since leaving the hospital had used 75 grains of the nitrate of silver in the course of eighteen months, making 150 grains in all. While some of the joints remained anchylosed, or distorted, in consequence of the advanced lesions that had been developed previous to her coming under my care, it may safely be said that the improvement in this interesting case was most gratifying and encouraging.

In these cases, and so in all similar cases, where I have succeeded in effecting any material relief, one of the most important, or probably the most important element in the treatment has been systematic daily manipulation. This includes persistent movement of all the affected joints, excepting those where anchylosis has been allowed to become so firm that any motion is impossible. But even when complete immobility has apparently been established, I have frequently been surprised to find that vigorous efforts have restored some measure of usefulness to the part. In the case of joints where the inflammation presents a very acute stage, attended with rapid swelling and decided heat and redness, it is proper to await the subsidence of this severe irritation before instituting regular manipulations; but the delay need rarely be long. Of course such manipulations are excessively painful, and must be conducted daily without anæsthesia. Still, so highly important do I consider this treatment, and so excellent are the results often obtainable by it, and by it alone, in cases which

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otherwise would pass steadily into more and more settled helplessness, that I feel no hesitation in appealing, and always with success, to the patient to undergo it thoroughly and persistently. Where the tendency to contraction, deformity and anchylosis is too great to be overcome by ordinary manipulation, suitable apparatus may be contrived to assist in overcoming it, as was done in Case 7.

I would beg to repeat, then, that in rheumatoid arthritis, from an early to a late stage, despite the pain occasioned by such manipulation, I consider the most essential part of treatment to be the systematic daily movement of the affected joints, combined with thorough massage of all the muscles whose functional activity is impeded and impaired. It is not, indeed, alone the maintenance of the mobility of the joints that is arrived at in such treatment. the circulation of the tissues around the joints is stimulated, and the tendency to absorption of the exudation is increased. The nutrition of the muscles is maintained, and the atrophy of their tissue, that we have all had occasion to note as among the most serious results of this form of joint disease, is as far as possible obviated. But in addition to all this, there seems every reason to believe that in this affection, as in nearly all cases of chronic rheumatism also, there is an underlying impairment of the tone and activity of the skin which is the strongest predisposing cause. There is no way in which this can be improved so well as by systematic manipulations and frictions, accompanied by the use of suitable baths, or by inunction with a vegetable oil. In feeble, anæmic rheumatic patients, where even hot salt baths of very short duration may be badly borne, or, on account of the crippled joints, may be inconvenient, the thorough daily inunction of the whole surface with pure olive or cocoa oil has for a number of years been a favorite practice with me.

In many such cases change of residence, and, if possible, change of climate is extremely beneficial. The diet nearly always requires close attention, and, as a rule, it is necessary to arrange it so that a much larger quantity than formerly shall be taken of simple, wholesome food, which is often best done by adding two or three pints of skimmed milk per diem to the regular diet.

It has long been recognized that patients with rheumatoid

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arthritis usually present an anæmic condition, and that nutrients and alterative tonics produce better results than any specific remedies, such as iodine, iodide of potassium, or guaiacum, etc. Of all tonics, iron in very large doses has proved by far the most valuable in such cases, and in unusually large amounts it forms an almost invariable part of my treatment of rheumatoid arthritis.

In many instances, especially where there has been marked pain extending along the nerve trunks, and perhaps associated, as often happens, with considerable disturbance of the nervous system, the prolonged use of nitrate of silver, with or without minute doses of opium and belladonna, has seemed to exert a favorable alterative effect. There is a constant temptation to resort to the anodyne use of opium in some form, but it need scarcely be said that this should be resisted most uncompromisingly, since there is scarcely any disease in which the opium habit is more readily acquired, more injurious in its effects and more difficult to break off. Local applications (veratria, aconitia, chloroform) or counter-irritation (iodine, small blisters, various mechanical irritants, or, finally, the constant galvanic current) may afford relief to pain.

It is not, of course, intended to say that other drugs are not called for in many cases. Cod liver oil and arsenic may supplant iron in cases where the latter constipates too persistently. Iodide of potassium with minute dose of bichloride of mercury, may replace or alternate with the use of nitrate of silver. Long continued courses of lithia, as a substitute for all drugs of this latter class, have proved serviceable, especially in cases attended with acid dyspepsia and the uric acid diathesis.

Electricity has been alluded to as a means of relieving local pain, but its systematic use enters as an essential part into the treatment of every case—not only for its effect on the muscles, but on the superficial circulation over affected joints, and on irritated or inflamed nerve trunks.

Lastly, a most rigid attention to hygiene is essential, including dress, exercise, avoidance of draughts and damp, etc.

This very hasty and imperfect sketch shows clearly enough the well-known truth, that it is not on any one drug or combination of drugs that we are to rely in the treatment of rheumatoid

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arthritis any more than in other chronic diseases; but that it is only by a thoroughly organized systematic plan of treatment, including hygiene, gymnastics, dietetics and therapeutics, that any success can be obtained. I would beg to emphasize the leading indications in ordinary cases of rheumatoid arthritis, as follows:

To remove the cause—having special regard to residence, soil, moisture, etc.

To maintain at all hazards the mobility of the joints.

To exercise the muscular system.

To restore and maintain the tone of the skin.

To improve the blood and nutrition.

To quiet the pain as far as possible by local means.

To modify the articular inflammation (and that of the adjacent nerve trunks when it exists) by counter-irritation, electricity, and the internal use of alteratives.

It may well be questioned whether such treatment can be successfully carried out under ordinary conditions of home life; and it cannot be doubted but that, for the maintenance of perfect regularity and system in each detail, as well as on account of the skilled attendants and special appliances required, it is generally preferable that such patients should be treated at a suitable institution.

I have spent so much time on the subject of rheumatoid arthritis, that it is not possible to more than glance at some additional practical points in regard to ordinary chronic rheumatism. In the first place, it is clear that in many cases of articular trouble, systematic motion would be injurious, and absolute rest must be enjoined. Here it seems to me better, not merely to allow the patient to lie in bed, trusting that the limb may be kept comparatively quiet, but to apply either a plaster bandage or a carefully adjusted splint, so as to secure absolute rest conjoined with carefully graduated pressure. The cases that call particularly for this complete rest seem chiefly to be those where the arthritis is very acute and painful, and older cases where there is a considerable amount of liquid effusion in the synovial sac. In the latter cases, no danger of anchylosis exists, and, moreover, the distended and weakened synovial membrane is irritated

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anew by any strong manipulation or extended movements. In fact, I should be inclined to say, that just in proportion as liquid effusion exists in a diseased joint, is passive movement or active exercise undesirable; while in proportion as the joint is free from such effusion, and presents, instead, thickening, stiffness or adhesions, is manipulation (of course, carefully graduated by the activity of the inflammatory process and the sensitiveness of the part) advisable.

As illustrating the excellent results obtained in chronic rheumatic synovitis and arthritis from rest and pressure, combined with nutrient and alterative treatment, the following case may be cited:

CASE 9.—Mr. S., æt. 65, farmer, from Susquehanna county, Penn., was admitted to the University Hospital in 1878. In consequence of working in a damp district, with constant exposure to hard toil, he became gradually crippled with chronic rheumatic inflammation of both knee joints. The shoulders were also affected, but to a less degree. After trying numerous modes of treatment at home and at neighboring mineral springs during the course of several years, and finding that he was growing gradually worse, he went to the Hot Springs of Arkansas, where he used water and baths faithfully, but steadily grew worse, so that he was entirely confined to his bed for several months before being brought to the University Hospital. He was greatly emaciated, anæmic and feeble. The appetite was poor and digestion torpid. He was exquisitely sensitive to the least changes of weather, to draughts and damp, so that in every way he presented the highest degree of atony of skin and general system. The shoulder joints were stiff and painful on movement, but there was no liquid effusion therein. Both knee joints were enormously distended with liquid, so that the legs were in slightly flexed condition, and the least attempt at motion caused extreme pain. The synovial membrane was thickened and crackled when moved, and there was some infiltration of the surrounding tissues. The muscles were wasted and flabby. It was impossible for him to stand for a moment even with help of two canes or crutches.

He was kept in bed strictly. The knee joints were enveloped with plaster bandages, which were changed as frequently as the

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diminishing size of the joints rendered them at all loose. Manipulation of the shoulder joints and thorough massage of the whole surface and muscular system, with inunction, were employed daily. A carefully regulated diet was directed, and he was encouraged to take very full amount of simple, wholesome food. At first he took quinia, strychnia, and muriatic acid, but as soon as the tone of his digestion improved, he was put on very large doses of dialyzed iron, with full doses of Donovan's solution, and later of KI. and $Hg.Cl._2$. Very gratifying results followed this treatment. He quickly regained use of the shoulder joints. The effusion in the knee joints steadily subsided, and in the course of three months was so far gone that passive movements were well tolerated. He gained twenty pounds of flesh, improved in color and strength, and in power of resisting changes of weather, and ceased to have exacerbations of pain. He became able to walk with crutches, then with a cane, and before he left the hospital could walk unaided. The muscles of the limbs were developing satisfactorily, and there was every prospect of complete recovery.

I have alluded to the fact that in this instance the thorough use of mineral baths and waters had failed entirely to afford relief, but there are many cases where the proper use of these powerful agents gives us the best possible results. Judging from my own experience, I should say that the cases best adapted to their use are those where the system is not yet too far reduced, so that the power of reaction is not too feeble. It is indeed upon their power of developing reaction, and thus inducing more vigorous circulation and more healthful secretory activity of the skin, that mineral baths depend for their value in the treatment of rheumatism. It is evident, therefore, that they are to be regarded only as adjuvants, and that at the same time a most careful dietetic, hygienic and medicinal treatment must be carried out. It is largely owing to the universal neglect of this treatment at all American springs that such frequent disappointment awaits rheumatic patients who resort to them for relief. It is not difficult, however, to institute a suitable system of bathing at home, by which many of the good results of this important element in the treatment of chronic rheumatism may be obtained.

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We have as yet but little positive knowledge in regard to the essential nature of rheumatism or of gout. All are agreed in regarding acute inflammatory rheumatism as a constitutional disease, although the widest diversity of opinion exists as to its true causes. So, too, there can be no doubt that in many cases of chronic rheumatism, there is the same constitutional disturbance which has assumed the chronic form, either from a repetition of acute attacks or from some peculiar modifying condition that has rendered it chronic from the outset. In such cases there probably exists some defect of primary assimilation or in the action of the great emunctories—liver, kidneys and skin. It is in consequence of this that in so many cases of true chronic rheumatism, great benefit is often derived from careful dietetics—such articles as close observation shows to be digested and assimilated with difficulty being restricted in amount or entirely prohibited. In whatever manner chronic rheumatism may have originated, nothing is more interesting and important than the part which the skin plays in keeping up the skin. So relaxed does the tone of the skin become under the influence of repeated attacks of acute rheumatism, or from unfavorable hygienic conditions, that, finally, the most trifling atmospheric changes, a momentary exposure to draught while the body is heated, or many other similarly slight causes, suffice to check the circulation and secretion of the skin and to induce an increase of rheumatic suffering. It would appear, therefore that any plan of treatment of chronic rheumatism which does not include a most careful attention to the state of the skin must, of necessity, fail in effecting a permanent cure; and clinical experience thoroughly confirms this view. The requirements of individual cases must determine the precise character of this part of the treatment (whether by dry friction, inunction, cold or hot sponge-baths or douches, medicated baths, etc.); but it is sufficient now to request your attention to this as, perhaps, the most important element—though only one of several elements—in the truly curative treatment of chronic rheumatism.

I have thus far made scarcely any allusion to the large group of valuable remedies—mostly of an alterative character—that have acquired reputation in the treatment of chronic rheumatism.

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It is true that in no case of this kind can we afford to depend solely on the use of any of these remedies, to the exclusion of baths, massage, diet, hygiene, it is no less true that in nearly every case there are indications that call for the use of some one or more of them. It would be impossible to discuss at length the merits of the very numerous remedies of this class, so that I must limit myself to the bare mention of those which have proved most valuable in my own experience.

In cases of chronic rheumatism limited to one or a few joints with considerable effusion, I have used the following with advantage:

℞

Potassii iodidi, ʒ ij.
Hydrargyri bichloridi, gr. j.
Syrup. sarsæ comp., ℥ v.
Ft. sol. S. Teaspoonful in water after meals.

or:

℞

Hydrargyri bichloridi, gr. j.
Inf. gentianæ comp., ℥ vij.
Ft. sol. S. 1 to 2 teaspoonfuls in water after meals three times daily.

In cases where a number of joints are involved with marked tendency to exacerbations, and especially if the lesions of the small joints indicate gouty complications:

℞

Pulv guaiaci, ʒ j.
Vin colchici radicis, ʒ ij. to ʒ iij.
Potassii iodidi, ʒ j.
Pulv acaciæ, q. s.
Sp. lavendulæ comp., ℥ ss.
Aq. cinnamomi, q. s. ad ℥ vj.
Ft. sol. S. Dessertspoonful three times daily in water.

The bicarbonate or the acetate of potash may often be substituted with advantage to the digestion for the iodide of potassium in the above mixture. I have already alluded to the use of prolonged courses of lithia as being very beneficial, especially in cases with a gouty element and with defective action of the kidneys. In regard to the mode of its administration, I much prefer the effervescing granulated salts.

I must also mention the benefit I have derived from the prolonged use of carefully increased doses of Donovan's solution. It

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is to be remembered that these alteratives have, for the most part, been given while the patient was also taking iron in large doses, cod liver oil, syr. hypophos. comp., or some similar nutrient.

I will merely mention again the nitrate of silver as an alterative, from which I think I have obtained good results, especially in cases attended with neuritis and with marked nervous symptoms.

TREATMENT OF SPRAINS.* By R. DACRE FOX, F.R.C.S., Edinburgh. Surgeon to the Manchester Southern Hospital; Chief Medical Officer to the Manchester, Sheffield and Lincolnshire Railway Company, etc.

The frequency with which sprains occur in general practice, and the somewhat unsatisfactory results of the treatment ordinarily adopted, induce me to bring forward a method that I have used in a great many cases with considerable success. Sprains may be broadly divided into two kinds, mild and severe; the former consisting merely of a temporary overdistension of the parts around a joint, which rest and anodyne applications usually soon cure; the latter involving, as I believe, much more serious pathological results, which the following plan is specially contrived to obviate.

The effects of a severe sprain are, that the fibrous ligaments controlling the movements of the joint and binding the tendons in their grooves become overstretched, swollen and softened; the cellular tissue about the ligaments and in the tendon-grooves becomes œdematous; and plastic material is exuded; while, as a consequence of these changes, the tendons are displaced in their beds. If this condition be not actively treated, it may, and often does, lead to continued lameness, due, in all probability, partly to a diminution in the caliber of the tendon-groove, with impaired muscular action, and partly to the torn ligaments and bruised cellular tissue having undergone changes which render them incapable of adapting themselves to the movements of the

* Abridged from a paper read before the Lancashire and Cheshire branch.

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joint, which are consequently impeded. I believe this result may be prevented by the application of firm direct equal pressure, applied manually at first, and kept up and controlled by pads placed in the line of the tendons, and kept in position by properly shaped plasters and bandages, and sometimes by splints. This pressure helps to disperse the œdema, to replace the tendon in its normal position, to hasten the absorption of any plastic exudation, and thus to prevent diminution in the caliber of the tendon-groove. I cannot say this is a novel method of treatment; but I think it is one not usually practiced, partly because it entails the expenditure of much time and trouble, and partly, I feel sure, because there is and has been a tendency to underestimate the inconvenience and distress arising from a badly sprained joint.

The common practice, in treating a sprain, is to put on a bandage, telling the patient to take it off if the joint becomes painful, and to substitute warm water fomentations. When the swelling has subsided, if the injury be not so slight as to be already cured, a liniment or the application of iodine is generally ordered. Very frequently the tight bandage causes inflammation, while the rubbing and painting are practically useless. There are numbers of cases of slight sprain, indeed, which will get well with comparatively little treatment or none at all; but in that more severe form where, after an inflammatory or at least exceedingly hyperæmic stage, swelling takes place, with the results I have described, the application of these remedies does not prevent the joint from being left rigid, painful and unfit for use for a very long period. Now it is, as I have said, in preventing all this, that the plan of treatment by direct, equal and continuous pressure will be found exceedingly valuable; for, where it has been properly carried out, I have always found that the joint returns quickly to its normal condition—pain being speedily relieved, and rigidly prevented. The treatment may be divided into two stages; the first lasting from a day to a week or longer, during which the treatment has to be directed to averting inflammation by rest, warm applications, anodyne lotions, etc.; the second commencing when the joint has become cold, swollen and painful on movement—in fact, when the injury has

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assumed a more or less chronic character. It is during this second period that I believe the active treatment I advocate ought to be employed. It is important not to commence this until the surface-heat is normal; for undoubtedly, when any tendency to inflammation exists in the tendon-sheath, pressure aggravates it, and I have known it to lead to untoward results.

It is of course impossible, within the limits of this paper, to describe the special adaptation of this method to each joint; but I will take as an illustration the ankle. If a wire be passed round the joint so as to impinge on the two malleoli and the tendo Achillis, it will define three or four well-marked hollows: one on each side of the tendo Achillis behind each malleolus, one in front of the fibula, with a fourth shallower one in front of the tibia. When the ankle is severely sprained these fossæ become obliterated, and are filled up with effusion, overstretched ligaments and displaced tendons.

Observation has led me to believe that there are very few sprained ankles in which muscular displacement to some degree does not take place. It most commonly occurs in front of the outer malleolus, involving the outer part of the annular ligament, the extensor longus digitorum, and the anterior fasciculus of the external lateral ligament; next, perhaps the posterior peroneo-tarsal ligament and structures behind the external malleolus. Cases of similar overstretching and displacement on the inner side of the ankle are happily rare; but in gravity they bear much the same relation to the former as a Pott's dislocation does to a simple fractured fibula. I will assume an ankle-joint has sustained a severe sprain all round, and has arrived at the chronic stage; modifications of the treatment of such a case will meet all that are likely to occur. To carry out the first principles of treatment by direct, equal and continuous pressure, it is clear the fossæ mentioned above must be filled, or rather their sites covered by pads so as to cause the retaining plasters, bandages and splints to exercise equal pressure everywhere. By making pressure with the thumb from below upwards in the line of the fossæ, a good deal of the œdema may be squeezed away and the displaced tendons in some degree restored. I make, as a rule, five pads (of tow and lint or leather): two about four

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inches long by one inch wide (one a little shorter than the other, so as to be better adapted to the curve extending upward from the dorsum of the foot to the crest of the tibia); another shorter, broader and thinner, to place over the tibialis anticus and extensor proprius pollicis; and two, three or four inches long and bolster-shaped, to fill in the posterior fossæ on each side of the tendo Achillis. It is often advisable, in old-standing cases, to supplement the pads by strips of plaster to ensure firmer pressure. Both pads and strips of plaster should be made exactly to fit, as, if too large, they are useless, from the pressure being too diffused; and, if too small, they exercise too little pressure. A moment's consideration will render this obvious. If too large a pad, for instance, be placed over the outer postmalleolar fossa, its edges rest on the tendo Achillis and outer malleolus like the piers of an arch, leaving the fossa itself untouched. To keep these pads in their place, I use a long extended half-moon-shaped piece of plaster (emplastrium saponis spread on leather), long enough for the ends to overlap in front when the heel is placed in the center, and a narrow oblong piece above this, placed round the lower part of the leg, to cover the upper part of the pads. The handiest way to apply the pads is to place an India-rubber band above the ankle, to slip the pads under it, and then, planting the heel in the center of the curved plaster, to bring the two ends across the front of the joint so as to overlap. The pads having been secured in position, the elastic ring is to be cut, and the oblong piece of plaster put on so as to encircle their upper ends; lastly the whole ankle is to be firmly bandaged. Amongst the working classes, or in the case of an uncontrollable patient, it is advisable to apply two thin splints over the anterior pads, keeping them in position by a long strip of adhesive plaster. Where there is much superficial ecchymosis, where there are bullæ or where there is unhealthy-looking skin, instead of using soap-plaster, the pads may be kept in position and pressure maintained by a piece of lint on which ointment has been spread. Calamine ointment made stiffly is clean, and not uncomfortably greasy. If, as occasionally happens, even this should cause irritation, warm wet lint covered by oiled silk may be advantageously used over the pads, and secured by a firm bandage; but

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neither of the applications can compare in efficiency with the soap plaster spread on leather.

It is, as I have said, impossible in the limits of this paper to describe the method of adaptation of the pads to all the different joints; but a very little consideration will suggest the shape, size and thickness necessary to be employed in each case.

ON WASTING OR "SIMPLE ATROPHY" AS IT OCCURS IN YOUNG CHILDREN FROM INSUFFICIENT NOURISHMENT. By LOUIS STARR, M.D., Physician to the Episcopal Hospital, and Assistant Physician to the Children's Hospital, Philadelphia.

Cases illustrating the ill effects of an insufficient supply of food, or of food which, though abundant, is unsuitable in quality, are of frequent occurrence among the out-patients of the Children's Hospital. The condition produced is either one of simple wasting, or of wasting combined with symptoms denoting irritation of the gastro-intestinal canal.

Simple wasting is, I think, most frequently seen in children who have been nursed at the breasts of feeble or overworked mothers, in whom the milk is often both scanty and of poor quality. The symptoms are sufficiently characteristic. There is a gradual loss of plumpness, the muscles grow flaccid, and there seems to be an arrest of growth. The face is pale, the lips pale and thin, the skin harsh and dry or too moist, and the anterior fontanel level or slightly depressed. The temper is usually irritable. When nursed, the child first seizes the nipple ravenously; then, if there is little milk, he quickly drops it, to cry passionately, as if disappointed at not being able to satisfy his hunger; but if the milk is abundant, though thin, he will lie a long time quietly at the breast. The bowels are inclined to constipation. The physical signs connected with the chest and abdomen are negative, and no indication of disease of any special organ of the body can be detected.

Wasting associated with symptoms of gastro-intestinal irritation is more common, and is met with chiefly in infants who are

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hand-fed. Resulting in the main from an improper diet, it is often encountered where farinaceous food is employed to the exclusion, in great part, of milk; where an infant is allowed or encouraged to bolt bits of table-food and drink tea, and particularly, so far as my experience goes, where the variety of feeding-bottle lately become so popular is used. These bottles have, in place of a plain gum nipple, an arrangement of fine glass and rubber tubing: the glass tubing extending quite to the bottom of bottle, the necessity of holding the latter and keeping it at a proper angle in feeding is avoided. This seeming advantage is counterbalanced by the minor disadvantage that the child, left to itself, is apt to continue suction long after the bottle is exhausted, and by the great disadvantage that the tubing can never be kept clean. During my last three terms of service at the Children's Hospital, it has been my rule to ask for the bottle of every hand-fed infant presented for treatment, and scarcely a day has passed without my seeing several of the bottles referred to. In almost every instance, notwithstanding the most careful and frequent cleansing, the contained milk had a sour odor, and was filled with small curds, while in cases of carelessness the odor was intolerable and the interior of the tubing was encrusted with a layer of altered curd. In bottles provided with a simple nipple, on the contrary, the milk was nearly always perfectly sound and the nipple itself clean.

As there is little difficulty in keeping the bottles themselves clean, there can be only one reason for this difference, namely, in the old-fashioned instrument the nipple is easily removed and as readily inverted and thoroughly cleansed, but in the other there is no way of thoroughly cleaning the twelve or more inches of fine tubing; it cannot be inverted, and the passage of a stream of water or of a small stiff brush can only imperfectly remove the milk clinging to the interior; this, of course, soon undergoes decomposition, and quickly inaugurates change in the next charge of milk placed in the bottle. It is evident that a constant supply of milk thus rendered acid and partially curdled must, like an excess of farinaceous or other unsuitable food, produce irritation of the mucous membrane of the alimentary canal, interfere with

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the processes of nutrition, and lead to a state in which the features of wasting and disordered digestion are combined.

The following case is a very typical example of this condition:

James ——, æt. three weeks, a foster-child, was brought to the dispensary of the Children's Hospital on April 1, 1879. His nurse stated that he had been in her charge for two weeks, and that he had been sick the whole of this time. The symptoms which arrested her attention were gradual wasting, great restlessness, with frequent prolonged paroxysms of screaming, and redness and excoriation of the skin in the neighborhood of the genitals and anus. He had been fed upon milk diluted with water, the food being given from a nursing-bottle fitted with the combination of glass and rubber tubing.

At the date of application the child was puny, his surface generally was pale and moist, the muscles were flabby, and there was severe intertrigo of the scrotum, groins, perineum, and inner side of each thigh. His mouth felt hot, the mucous membrane was redder than normal, and the tongue and palate were covered with small patches of thrush. He took his food almost ravenously. There were frequent eructations of sour-smelling, partially-coagulated milk, and the bowels were somewhat constipated. Paroxysms of screaming occurred at short intervals, and greatly disturbed his rest at night; during these paroxysms the legs were drawn upward and moved about uneasily, the feet were very cold, and the abdomen was distended and hard. The heart and lungs were healthy, and the urine was voided freely.

The nursing-bottle was examined. The glass tube which extended to the bottom of the bottle was lined with curd, and a quantity of milk remaining from a supply placed in the bottle about an hour before was sour and contained numerous small curds. This change, it was stated, often occurred, in spite of much care taken to keep the bottle and tubing clean.

Directions were given to substitute a soft india-rubber nipple for the tubing, to keep both the bottle and nipple thoroughly clean, to wash out the child's mouth with cold water after each feeding, and to use a food composed of one part of barley-water to two of milk, with the addition of a tablespoonful of lime-water to each half-pint. Small doses of bicarbonate of sodium, with

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peppermint-water, were prescribed every three hours. The nurse was also ordered to rub half a teaspoonful of warm olive oil into the skin of the abdomen twice daily, to anoint the surface involved in the intertrigo with oxide of zinc ointment, and to keep the feet warm by frictions with the hand.

The improvement under this treatment was rapid. On April 11 (the day of the last visit) his mouth was cool and free from thrush; there was little eructation; the bowels were natural; there were no more attacks of colic; the sleep was undisturbed; the child had begun to gain weight; and the intertrigo was very much better.

In other cases the symptoms are much more grave. The emaciation progresses to an extreme degree; the skin becomes dry, yellowish and harsh, and hangs in loose folds over the bones—and this, although a large quantity of food, such as it is, may be consumed. The combination of great wasting with a voracious appetite is very striking, and is only apparently contradictory, since hunger—the demand of the tissues for reparative material—cannot be appeased by food which, from its bad quality, is incapable of digestion or proper preparation for absorption and assimilation; unsuitable food, too, by irritating the mucous membrane of the stomach, creates a fictitious appetite.

Wasting children sometimes have what are termed "inward spasms." When these spasms occur, the upper lip becomes livid, somewhat everted, and tremulous, the eyeballs rotate or there is a slight squint, and the fingers and toes are strongly flexed. They frequently usher in true convulsions.

These "inward spasms," together with restlessness and irritability of temper, are ordinarily the only indications of involvment of the nervous system; but in a child who recently came under my notice there was a train of very misleading nervous symptoms. The notes are as follows:

Philip ——, 15 months old, of Irish parentage, became an out-patient at the Children's Hospital on April 9, 1880. He was the youngest of five children, all of whom are living and healthy. His father had suffered greatly from rheumatism, and his mother, who brought him to the hospital, looked pale and worn, though

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she stated that she never felt ill. The child had always been fed at the breast, dentition had progressed regularly, and his health had been good until five days before the date of application, when it was observed that he was more pale than usual, that his movements were more feeble, and that there was a tendency to retraction of the head.

When first seen, his skin was pale, the temperature to the hand was normal, and upon drawing the finger-nail over the surface the tache cérébrale could be faintly produced. His face was listless in expression, the veins of the forehead were distended, and there was marked and rigid retraction of the head, any attempt to move it forward causing cries of pain and being resisted by the contracted cervical muscles. The muscles generally were soft and relaxed. The anterior fontanel was open and was natural in appearance. The tongue was very lightly frosted; there was no indication of pressure upon the gums from an approaching tooth; he took the breast greedily, and his bowels were moved once or twice daily, the stools being perfectly healthy. There was no alteration in the condition of the abdomen. On physical examination the lungs and heart were found to be healthy, though there was a trifling loose cough; the pulse was regular, and slow considering the age of the child, the beats ranging between 80 and 90 a minute. While resting in his cradle, he took little notice, so his mother stated, of what passed in the room about him, but occasionally moved his head restlessly on the pillow and uttered several low, fretful moans. Any attempt at movement, as lifting him up to nurse, was attended by crying.

He was ordered two grains of bromide of potassium, with half a grain of iodide of potassium, in camphor-water four times daily.

On April 12, being too ill to be brought to the hospital, I visited him at his home. I found him in a moderately clean room, in a healthy quarter of the city. He rested passively in his cradle, his head bent backward, his eyelids half closed, his thighs drawn up towards his belly, his arms bent at the elbows, and his hands held up under his chin. There was evidently greater prostration, more wasting, and a nearer approach to stupor. The skin was pale and cool; there was no eruption or

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maculation; the eyes were sunken and the fontanel somewhat depressed. The breathing was regular, and the pulse was slow and regular, but compressible. The belly was natural in shape, and soft; the tongue was slightly coated; the bowels were moved two or three times daily; there was no vomiting, and the appetite was good. In order to test his capacity for feeding, his mother was directed to put him to the breast; the child began to whimper as soon as he was moved, but when the nipple touched his lips he quickly seized it, made several forcible efforts at suction, and then dropped it with a cry as of disappointment. The breasts were examined and found to be small and flabby, and to contain little or no milk. This discovery suggesting an alteration in the diet, directions were given to feed the child chiefly upon cow's milk, and to reserve the breast-milk for the night. An attempt was also made to increase the flow of the latter by advising an improvement in the mother's dietary. The bromide of potassium mixture was continued.

On April 14 the symptoms were still more serious. When closely questioned, the mother reluctantly admitted that she had not fed her baby as ordered, having no means of procuring milk, and further that, her husband having been out of work for several weeks, her own food had been reduced to a very moderate allowance of bread and tea. In consequence the flow of milk had gradually failed, particularly so during the preceding two days, the knowledge of her child's wants and her total inability to supply them producing an exceedingly nervous, despondent condition, and increasing the effect of the starvation diet.

She was readily put in the way of obtaining substantial relief, and after some trouble reassured and persuaded to persevere in the care of her baby. Improvement began simultaneously with the administration of food; the partial stupor, the retraction of the head, and the depression of the fontanel soon disappeared; the little patient began to gain flesh and color, and his muscles became more firm. The bromide of potassium was stopped, and two drops of the syrup of the iodide of iron were given three times daily.

On April 30, the date of the last visit to the hospital, conval-

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escence was thoroughly established. On September 21 the child was in good health.

In this case the retraction of the head, the boring of the head into the pillow, the peculiar decubitus, the general hyperæsthesia, the semi-stupor, the marked prostration, the slowness of the pulse, the tache cérébrale; and the vomiting suggested the existence of tubercular meningitis; but this opinion was reserved on account of the absence of many characteristics of the disease. Thus, the open fontanel was level; the belly was natural in shape; the bowels were the reverse of constipated; the respiration and pulse were regular; and there was no hydrencephalic cry. Furthermore, no account could be obtained of an initial stage of slowly-failing health, and in other respects the course of the illness was different from that of the suspected disease. At the same time, the idea of such symptoms being due to partial starvation was not entertained until they began to disappear almost immediately upon an increase in the quantity of food. Taking a retrospective view, however, it is easy to refer the anomalous symptoms to an intensely excitable nervous system—a condition depending upon insufficient nourishment, and differing merely in degree from that leading to the "inward spasms" already referred to.

In a paper on "Starvation Fever," recently read by Dr. Da Costa before the College of Physicians of Philadelphia, three cases are detailed in which a still different set of symptoms were noted.

The first case, a girl aged three years, had frequent vomiting, great weakness, giddiness, a feeble and rapid pulse, fever, and loss of vision. Death took place on the thirteenth day.

The second, a pallid, badly-nourished boy four months old, had repeated convulsions and a petechial eruption. Death occurred at the end of twenty-four hours.

A post-mortem examination was made in both instances, and, besides minor alterations, the gastro-intestinal mucous membrane was found to be pale and thin, and there was an effusion of serum into the pleural sacs.

The third patient, a feeble girl of three and a half years, had fever, followed in a short time by bronchitis, which subsequently

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ran into broncho-pneumonia. Recovery took place on quinine and supporting treatment. The bronchitis and broncho-pneumonia undoubtedly depended only indirectly on the starvation, which, by leading to weakness and ill health, rendered the child very susceptible to the ordinary causes of catarrh.

In the treatment of wasting from insufficient nourishment the first thing to be attended to is the diet. Without entering at length into this subject, it may be stated, as a general rule, that in selecting a diet the object should be to fix upon one which is suited to the age and digestive powers of the child, so that he may be able to digest, and therefore be nourished by, all the food consumed.

At the hospital I have found that children under twelve months, who have to be either partially or entirely "brought up by hand," ordinarily do well upon cows' milk with lime-water or with barley-water. The food should be administered from a bottle capable of holding half a pint, made of colorless glass, so that the least particle of dirt may be readily seen, and provided with a soft india-rubber nipple. The whole quantity of food intended to be given in a day should never be prepared at once, but each portion should be made freshly and separately at the time of administration. Thus, a bottle such as described, as nearly absolutely clean as possible, may be filled with a mixture of one part of lime-water to two or three of sound milk, or with one part of barley-water to two or three of milk, to which may be added from one to four teaspoonfuls of cream and one or two lumps of cut loaf-sugar; the nipple (also perfectly clean) is next applied, and the bottle placed in hot water until the contents become warm, when it is ready for the child.

The degree of dilution of the milk and the proportion of cream added vary, of course, with the age. Lime-water is used as the diluent when there is frequent vomiting or acid eructation, barley-water* when it is desired to prevent the formation of a large compact curd.

After the digestion has been brought into good condition by such a diet, the food may be cautiously increased to the point

* Barley-water is made by putting two teaspoonfuls of washed pearl-barley in a pint of water, boiling down to two-thirds of a pint, and straining.

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suitable for a healthy child of the same age: for instance, at eight months from two to four fluid ounces of thin mutton- or chicken-broth, free from grease, may be allowed in addition to the milk; at twelve months the yelk of a soft-boiled egg, rice and milk, and carefully-mashed potatoes; and after sixteen months a small quantity of finely-minced meat.

Once daily the patient should be bathed in warm water, or, at least, sponged over with warm water, and every morning and evening a teaspoonful of warm olive oil or of cod-liver oil should be gently rubbed into the skin, especially of the abdomen and chest. At the same time the belly should be completely covered with a soft flannel binder, and the feet kept warm. In this way attacks of colic, if not entirely prevented, are rendered much less frequent and severe.

When there is intertrigo, cleanliness and the free use of oxide of zinc ointment usually suffice to effect a cure.

Of medicines, bicarbonate of sodium, pepsin and cod-liver oil are, perhaps, most useful. Cod-liver oil should not be given until the digestive powers have been brought into a comparatively normal state by proper food, antacids and digestants. It seems to be most easily borne when given in emulsion, and may be advantageously combined with lacto-phosphate of lime or with the hypophosphites.

Such symptoms as constipation and diarrhœa demand, of course, appropriate treatment.—*Phila. Med. Times.*

THE TREATMENT OF ASTHMA. By J. B. BERKART, M.D., Senior Assistant Physician to the City of London Hospital for Diseases of the Chest, etc.

Not unfrequently the treatment of the paroxysms is of necessity limited to the exigencies of the moment; its sole aim, at the time, being the safe and speedy relief of the distressing symptoms. Although constantly attempted, this object has hitherto not been obtained, notwithstanding the long and tedious trials of all the means which theory and empiricism suggested for the purpose. The belief has consequently spread that unknown peculiarities—

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caprices—of the disease are responsible for the failure of the treatment. But a glance at the subject will show that the want of success is really due to the indiscriminate application of remedies, of which each possesses a different physiological action. It will be readily conceded that chloroform and coffee, opium and stramonium, morphia and atropia, niter paper and emetics, tobacco and hot brandy and water, etc.—all side by side extolled as valuable remedial agents—are not so closely allied as regards their physiological actions as to be convertible; and if they are intended to break "the bronchial spasm"—which, I was amazed to learn, resists even chloroform (Thorowgood, Lettsomian Lectures, etc., 1879, page 72)—they require, each of them, special circumstances favorable for the production of that effect. But no such indications exist. The very idea of their existence is inconsistent with the prevalent theory of the disease. According to this, paroxysmal dyspnœa, accompanied by sibilation, denotes bronchial spasm, whatever else may be present at the time; and so significant are these symptoms, that attention to them permits to read off, as it were, the disease at a distance (Hyde Salter, *Lancet*, vol. i, 1870, page 147). The immediate consequence of this doctrine is that, in the choice of remedies—if choice there be—"no guide is known except"—the saddest of instructors—"the former experience of the patient" (Salter, *op. cit.*, page 183); hence a practice of which the following case is an apt illustration. "For 340 nights out of 365, the patient had to sit up, struggling for breath; and the effects of ordinary remedies may be thus briefly given: burning niter-paper, useless or worse than useless; tobacco or stramonium, smoked *ad nauseam*, slight benefit; chloroform inhalation, transient relief; nitrite of amyl, tried repeatedly and carefully, entirely useless; phosphorus, arsenic, iodide of potassium, no benefit whatever" (Thorowgood, *op. cit.*, p. 71). Such blind groping after remedies, in the presence of urgent symptoms, must needs defeat its own object. There can be no relief, safe and speedy—that is the lesson taught by failure—unless the remedies adopted are such as counteract or remove the proximate causes of the dyspnœa; and their selection depends in each case on the considerate appreciation of the surrounding circumstances.

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It is not my present intention to enumerate all the measures that, in case of emergency, may be taken for the relief of a dyspnœal seizure. I propose merely to trace the indications for the purely medicinal treatment of those forms of asthma which are distinguished by the frequency of their occurrence and by the severity of the symptoms.

Foremost amongst them is œdema of the lungs, as it occurs in the obese and the cachectic, and in those suffering from valvular lesions of the heart, from gout, and from renal disease (urœmic asthma). It is invariably the result of a temporary failure of the left ventricle, while the right is still able to act;* and develops itself, either in the midst of apparently perfect health with the suddenness of a fainting fit, or as a rapid exacerbation of an existing cardiac derangement. To understand its pathology, it is well to remember that the constitutional and local causes just mentioned tend to impair the nutrition of the cardiac muscles to an extent varying from the cloudy swelling of the individual fiber, to its brown atrophy or fatty degeneration. The heart, notwithstanding these changes, continues, in ordinary circumstances, to perform its function in accordance with the requirements of the organism, and without painful perception by the patient. It is only when an increased demand is made upon its energy, and on the accession of an irritation, that the organ manifests its inherent weakness, by its inability to meet the one and resist the other, even if both are so slight as to be powerless to cause disturbance in a healthy person. Œdema is thus readily produced by imperfect ventilation of the lungs, as it arises from the rapid extension of bronchitis, from embolism of a large branch of the pulmonary artery and from extensive meteorismus. The reason is, that the blood, abnormally rich in carbonic acid, irritates the centers of respiration and circulation, and that, finally, while the right ventricle is able to empty part of its contents into the pulmonary artery, which possesses no tonus, the left is incapable of doing so, on account of the increased tension of the systemic vessels.

In these circumstances, the subcutaneous injection of one-sixth

* C. Mayer. *Bemerkungen zur Experimentelle Pathologie des Lungenœdems. Sitzungsber. der Akad. der Wissensch.* Wein, Band lxxvii. Abth. iii; Welch, *Zur Patholog. des Lungenœdems.* Virchow's *Archiv.* Band 72, Heft 2 and 3.

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of a grain of morphia acts, indeed, like a charm. As soon as the morphia is absorbed, which requires a longer time than in health, the painful oppression at the chest and the hacking cough disappear; the noisy and frequent respiration becomes quiet and slower; the cyanosis of the face and lips give way to a flush; the cold and clammy skin becomes warm and moist; the contracted artery widens and fills; the heart regains its previous force and rythm, and with them return its impulse, its sounds, and its murmurs, while the consequences of its temporary failure as regards the lungs subside more or less completely. There is, subsequently, neither languor nor drowsiness, even in those who at other times are very susceptible to the influence of narcotics. Morphia merely counteracts the effect of the abnormal quantity of carbonic acid in the blood, and, with the attainment of that object, its influence is exhausted, as shown by the following cases:

Mrs. H., aged 42. tall, stout, has for several years been subject to cough and to attacks of dyspnœa. In the foggy weather of November, 1879, she was seized with smarting of the eyes; a great deal of sneezing, and running from the nose; an eruption of the upper lip; sore throat; harsh and painful cough, with scanty expectoration, and much dyspnœa; all the symptoms which, if they occur in summer, are supposed to form a special disease called hay-asthma. On Saturday, November 15th, she went to Eastbourne to get rid of her "cold," but, on arrival, all the symptoms, especially the dyspnœa, became much worse, and on Monday she had to return home. I saw her on November 17th, 1879, at 7 p.m., and noted the following. She sat in bed; she was cyanotic; there was great dyspnœa; she complained of pain across the chest and at the insertion of the diaphragm; there was a painful cough, with scanty expectoration; the extremities were cold. Pulse was very small, rapid, and almost countless; respiration noisy, frequent; there was a loud laryngeal noise. The chest wall was raised; the sterno-mastoids, were firmly contracted; the thyroid lying beneath the manubrium; the tongue was clean. On the right, front and back, the percussion note was flat; there was very feeble respiration above, and moist rhonchi at the base. On the left, front and back, better resonance, dry, and loud rhonchi from apex to base. The impulse of

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the heart was not felt; its area was enlarged to the left; sounds very feeble. Injection of morphia hydrochlorate, grain $\frac{1}{6}$. In ten minutes, perspiration commenced; the breath was easier, respiration deeper and slower, and the pain diminished. The laryngeal noise disappeared, the resonance of the right side improved, and inspiration was feebly heard; on the left, respiration returned, and the rhonchi became moist; the rhonchi at bases persisted; pulse improved; cardiac sounds distinctly heard. The patient was perspiring much when I left.

November 18th.—She passed a tolerably good night, but had no sleep. The cough was troublesome; the expectoration became more copious, and consisted of black mucous substance mixed with soot. A rational treatment of her bronchitis was now adopted, and she recovered by the end of the week.

Mr. L., aged sixty-two, tall, stout, for twenty years subject to gout, had signs of dilatation of the left ventricle, and of degeneration of the cardiac muscles. In December, 1878, he had an attack of gout in the left toe; subsequently, other joints were affected, and at last both lower extremities swelled. Bronchitis then followed, complicated by attacks of asthma. His friends noticed that he had frequent fainting fits: his face suddenly turned blue, the heart seemed to stop, and cold perspiration appeared on the forehead. On December 10th, 1878, when I saw him, he had great dyspnœa, with loud wheezing and troublesome cough. He felt exhausted from the many sleepless nights through which he had passed. Respiration rather frequent. The large and roomy thorax was generally deficient in resonance, and, on auscultation, there were loud, sonorous and sibilant rhonchi from apex or base. No cardiac impulse was seen or felt. The action of the heart was rapid, its sounds impure. The pulse was empty; there was considerable anasarca; the urine was scanty, but not albuminous; the tongue was thickly coated; great tympanitis; constipation. At 5 p. m., injection of hydrochlorate of morphia grain $\frac{1}{6}$. Immediate relief. He was ordered pil. hydrarg. gr. x. There was much improvement the next morning; the patient had passed a good night; he had no dyspnœa; the cough was less troublesome; and he had slept several hours. His bowels had copiously acted. He had a light

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breakfast, which he enjoyed. The expectoration consisted of a few pellets of black mucus. The thorax was much clearer. The pulse was felt at the wrist; it was frequent and intermittent. Now that the pressing symptoms of the moment had been successfully combated, a deliberate treatment was adopted, by which the patient greatly benefited.

In all cases of that kind, the subcutaneous injection of morphia is preferable to the internal administration of opium; for in the first place, the action of opium is not quite identical with that of its alkaloid; and, in the second, the absorption by the gastric mucous membrane is, owing to the stasis in the systemic vessels, slow and imperfect; so that, to obtain rapidly the desired effect, a very large dose would be required, of which the consequences would be still felt when the indication for the use of the drug had passed off. If, nevertheless, opium has to be administered internally, it should be given in a moderately large dose, and should be combined, to facilitate its absorption, with stimulants, as ether or aromatic spirit of ammonia.

But I must not omit to add that the subcutaneous injection of morphia is an operation with the performance of which neither the patient nor his friends may be entrusted. It is an operation, useful only in special circumstances, satisfying the imperative demands of the moment, but incapable of producing more than a transient benefit. Its thoughtless repetition with each recurrent attack not only not relieves—unless the dose be considerably increased—but aggravates the disease. A craving for morphia is readily established, but not easily eradicated.

To the use of stimulants in these cases the same objection applies as to that of opium. Their action, even in large doses, is comparatively slow; and, though they temporarily restore the activity of the heart, they do not remove so rapidly and so fully as morphia the peripheral obstacle—viz., the increased arterial tension. Dr. Thorowgood recommeds large doses of caffein—four grains in a cup of coffee (*loc. cit.*, p. 72). This preparation is, I presume, indicated if it be desired to produce copious diuresis, so as to diminish the volume of the blood; but, on account of the peculiar rigidity of the cardiac muscles which large doses

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of caffein are apt to produce, that remedy should be cautiously used.

The distressing form of dyspnœa which arises from extensive meteorismus requires for its relief the removal of the fermenting substances, either by emetics, if they are as yet in the stomach, or by enemta, if they are retained in the descending colon or rectum. If the removal be impracticable, the fermentation may be arrested by small (five-grain) doses of chloral-hydrate, or by about two drachms of the creasote mixture (*P. B.*), both of which—the former with the addition of a little mucilage—are given in some aromatic water. After one or two doses of these mixtures, the intense symptoms soon subside.

In cases of obstruction of the air-passages by plugs of mucus, the means of relief vary according to the position of the latter. Emetics are indicated if the block exist in the peripheral portions of the lungs; and, as they are employed only on account of the mechanical compression of the chest in the act of vomiting, preference is therefore to be given to those remedies which produce the least amount of depression. Hence the sulphate of copper or of zinc is preferable to antimony or ipecacuanha. I have frequently made subcutaneous injections of apomorphin—from one-twelfth to one-tenth of a grain—and I have found them best answer the purpose.

Vomiting, i. e., compression of the chest, has little influence on the plugs of the larger bronchi. Hyde Salter correctly observed that, in the cases in which ipecacuanha afforded relief, this occurred before vomiting took place; and he truly remarked that ipecacuanha acted as a depressant—not, as he imagined, by relaxing the bronchial spasm, but by producing serous exudation around the tough pellets of mucus. The same effect, however, may be obtained in a less circuitous route, and with less general disturbance. The "antispasmodic fumes," which have been empirically recommended, owe their virtue to the presence of ammonia, and to that of picolin, of pyridin, of lutidin and collidin, as they are evolved in the combustion of niter-paper, of stramonium, of tobacco, and of the various patent "smoking mixtures." Ammonia and the members of the picolin series produce, when inhaled, intense hyperæmia, as may be seen in

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the buccal, pharyngeal and laryngeal mucous membranes of habitual smokers; and the exudation accompanying the hyperæmia tends to soften and to detach the obstructing mucus. Germain Sée has introduced for the purpose iodide of ethyl, of which from six to ten drops inhaled greatly increase the bronchial secretion. Its effect is transient, but unquestionably curative in cases of chronic bronchitis; whereas the fumes of stramonium and of similar drugs, especially if often repeated, aggravate the disease by the intense and lasting congestion which they produce.

The liquid extract of quebracho has of late been largely employed in the treatment of asthma. As yet, there is no indication for its use, except the presence of dyspnœa. A teaspoonful, repeated, if necesssary, at intervals of ten minutes, certainly relieves, as I have observed, the dyspnœa of phthisis, of pneumonia, of pleurisy, of emphysema, and of valvular lesions. It has failed of its effect, so far as I have seen, only in two cases of aortic disease; in the one, the patient had been for years accustomed to inhale nitrite of amyl almost every two hours; in the other, there was complication with marked attacks of stenokardia. The active principle of quebracho appears to be gum-resin; but as to its mode of action nothing is known. I have frequently noticed that, after the administration of the drug, there is slight flush of the face, perspiration and occasionally drowsiness; but there are no objective signs on the part of the heart and of the lungs sufficient to account for the relief.—*British Medical Journal.*

ANEURISM OF THE ARCH OF THE AORTA, CURED BY REST, RESTRICTED DIET, AND IODIDE OF POTASSIUM AND ERGOT. By R. STANSBURY SUTTON, A.M., M.D., Fellow of the American Gynæcological Society, etc., etc.

Miss Mary Louise B., resident in the northern part of this county, aged twenty-one, is of delicate parentage, and possesses a highly nervous temperament. In the autumn of 1873 she was working in the garden, assisting in taking up the winter vegetables. After prolonged exertion in a stooping posture, she sud-

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denly resumed an erect attitude. Instantly she was seized with violent pain in the region of the heart. This pain, in her own language, caused her to "shriek." Faintness immediately followed and she dropped from her feet. The pain gradually subsided. For six months from this date she had repeated attacks of pain and frequently fainted. On one occasion she fell from a porch and narrowly escaped death. During this time she had no medical care.

In the spring of 1873 her disease was diagnosticated as disease of the heart, and her case was looked upon as hopeless.

On the 4th of July, 1874, about nine months after the seizure in the garden, she was brought to my office. An examination revealed an aneurism of *the descending portion of the arch of the aorta*. Her face was of a purplish hue, and all the veins above the clavicle were turgescent. The aneurism was pressing hard against the second and third ribs just to the left of the sternum. Its thrill was distinct, and its impulse was readily discernible from that of the heart. My diagnosis was confirmed by Dr. Daniel Leasure, now of St. Paul, Minnesota. The prognosis was emphatically unfavorable, and Dr. Leasure expressed the opinion that the patient would scarcely survive the summer.

For a year, to the autumn of 1875, she remained in the city under my care. During this time she was secluded from all excitement, and took three times daily from 10–20 drops of fluid extract of ergot and 5 grains of potassium iodide. The ribs were now bulged up above the plane of the chest wall; the thrill was very loud, and the impulse visible in the second intercostal space. It seemed to me that the end was very near. Fortunately I decided upon another effort. She was sent to her home in the country and put to bed at absolute rest for five and a half out of every six hours—the half hour being allowed for quiet walking about her room. Her nourishment was restricted to ten ounces of material, fluid and solid together, for each twenty-four hours. The ergot and potassium iodide were continued. This regime was strictly adhered to for thirteen months.

At the end of this time I visited her at her own home. I found her in bed and reduced to almost a skeleton. An examination revealed the fact that the aneurism was cured, and the

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action of the heart weak and irregular and giving a distinct anæmic bruit. I put her upon drachm doses of bitter wine of iron, increased her nourishment, and gave permission for her to be up and down at will. This was in the autumn of 1876. Her cure appears to be permanent.

At a meeting of the Allegheny County Medical Society, held at Pittsburgh, June 15, 1880, this case was reported and the patient exhibited. A committee consisting of Drs. Thomas J. Gallaher, Andrew Fleming, and S. M. Stevenson was appointed to examine the patient. The committee reported that the aneurism was cured, and that the only evidence of disease at this time was a slight endocardial murmur.—*Am. Jour. of the Med. Sci.*, October, 1880.

THE course pursued by the Guy's Hospital nurse, in dressing, upon her own responsibility, the scalp wound of a patient who subsequently died from fracture of the skull, which she had not recognized, appears not to be, as might be supposed from the post mortem evidence at the coroner's inquest (which revealed serious injury to the back part of the head, immediately beneath the dressed wound), an isolated example of forgetfulness of duty or omission of instructions. We have before us details of the case of a patient who applied lately at another metropolitan hospital, with a scalp wound on the vertex. The wound was "clean cut," and did not extend deep enough to expose the bone; it was about an inch long; the surrounding hair had been clipped off, apparently preparatory to the application of a surgical dressing. The statement of the man, who was sober, was to the effect that he had gone to Guy's and asked to see the house surgeon or dresser, but that a nurse had informed him that he could not see that official, and immediately she began to cut the hair from around the wound. Upon this the man left and came to St. Thomas's, where he was attended to. This incident suffices to show the distressing scandal exposed at this inquest is a logical sequence of the system by which the nursing at Guy's has been made to supercede and override the responsibility of the medical staff, instead of being the docile and skilled instrument. The

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nurse is one of the Leicester nurses introduced by the matron as being trained in the system which she carried out at the hospital of that town prior to her appointment at Guy's Hospital. Nothing could more clearly justify the demand of the staff that the system be abolished root and branch.—*Brit. Med. Jour.*, Oct. 30, 1880.

GLASS HOUSES AND STONES.—The author of the Guide to European Universities, Dr. Hardwicke, of Sheffield, has been induced, by the success of his pamphlet, to reproduce the information therein conveyed in book form, together with the results of his inquiries into other systems of education, and other countries than Europe. Here the reader will find information respecting the educational bodies, examinations, and medical laws of every civilized state, and he will also come to the humiliating confession that though there exist a good many time-honored institutions in the United States, and an anxiety to put matters on a scientific footing in others, yet farther South the condition of medicine is as bad as can possibly be imagined. Bankrupt bakers, grocers, and others who have failed to make a living, afterwards start as 'doctor,' and soon get into *full practice*, by parading their names before the public, through the medium of the daily papers and street placards, with "Dr." and "M. D." attached to them, without a word being said by the authorities. All this is very humiliating, but we could show our author identical counterparts in London, Birmingham, Glasgow, and other large cities, without a word being said by the authorities. But they, not Dr. Hardwicke, are responsible for this, and we cordially thank him for his decidedly useful addition to our knowledge of medical education in other countries.—*Medical Press and Circular.*

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Obituary.

REPORT OF MEMORIAL COMMITTEE, CHICAGO MEDICAL SOCIETY, IN VIEW OF THE DECEASE OF THE LATE DR. F. H. DAVIS, PRESENTED NOV. 15, 1880.

Dr. Frank Howard Davis was born in the city of New York in 1848. He began the study of medicine in 1867, at the Chicago Medical College, and was graduated in 1871. At the same college he received the prize for the best thesis presented to the faculty by the class of that year.

In order to prepare himself more thoroughly for the duties of his chosen profession, he spent several years abroad, dividing his time between London, Paris and Vienna, and devoting himself specially to the study and practice of laryngoscopy. That he was studious and active in his profession is evident from the number of appointments with which he was favored. He was treasurer of the Chicago Medical Society. He was secretary of the Association of American Editors; also secretary of the American Laryngological Association. He was an active member of the American Medical Association, the Illinois State Medical Society and the Alumni Association of the Chicago Medical College. He was also an active member of the Chicago Academy of Sciences, of which he was librarian at the time of his death.

The doctor wrote a number of articles, which have appeared in different medical journals, and which have also been published in the transactions of the associations with which he was connected. Among the more important were probably his inaugural thesis: "Atmospheric Germs and their Relation to Disease" (published in *Chicago Medical Examiner*, vol. 12, number 4). "Some

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Facts regarding the Relations existing between the Prevalence of Pulmonary Tuberculosis and Hygienic Surroundings of the People" (American Medical Association Transactions 1878, p. 147). "A Study of Nine Hundred and Sixty-five Cases of Chronic Pulmonary Disease" (American Med. Ass'n 1877, p. 269). "Clinical Lectures on Various Important Diseases," by Dr. N. S. Davis; edited by Frank H. Davis (published by H. C. Lea, Phila.). "Inhalations in Pulmonary Diseases" (Illinois Medical Society, 1880).

The doctor in 1875 was united in marriage to Miss Anna Smith Marcy, daughter of Prof. Oliver Marcy, of the Northwestern University.

Their marriage was blessed with two children—a son and a daughter, who, with their mother, now mourn the loss of a most devoted husband and affectionate father. Few young men had the opportunities of preparing themselves for the arduous and responsible duties of life that the doctor enjoyed, and no one ever employed them to greater advantage. The chief cause of his death was "suppurative inflammation of the left kidney," accompanied by so persistent a reflex irritation of the stomach that during the last few weeks of life his sole dependence for support was on nutritive enemas. The doctor had the highest regard for professional honor, but those only who knew him intimately could appreciate fully his kind, sensitive nature.

WHEREAS, The Chicago Medical Society has heard with great regret of the death of Frank Howard Davis, long a member and officer of this society,

Resolved, That the Chicago Medical Society is called upon to mourn the loss of an active, efficient member and officer, who was ever faithful in the discharge of his duties.

Resolved, That as a tribute of respect to his memory, we wish to place upon our records our appreciation of his character and of his services to the society and the profession.

Resolved, That while we fully realize our own loss, we would extend our most heartfelt sympathy and condolence to his afflicted family, and particularly his bereaved father, to whom we are all personally greatly attached.

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Resolved, That a copy of these resolutions of respect and condolence be sent to his family, and also to the city medical journals and daily press for publication.

Your committee,

H. P. MERRIMAN,
LYMAN WARE,
ROSWELL PARK.

Per L. H. MONTGOMERY,
Secretary Chicago Medical Society.

We clip the following from the Minneapolis *Tribune* of November 21st, 1880:

Dr. Calvin G. Goodrich died at his residence, corner of Seventh Street and Fourth Avenue South, at 11 a. m. yesterday. The above simple announcement, though not a matter of surprise to the many friends of the deceased, is nevertheless a cause for deep regret and wide-spread sorrow. In the death of Dr. Goodrich a wife has lost a noble and generous husband; children will mourn a kind, sympathetic and loving father; the members of the medical profession will part with an honored, intelligent and eminent representative; and Minneapolis will lose a valued, high-minded and useful citizen. Centenary Church of this city has lost an influential member, and God has called home a good and faithful servant.

Dr. Goodrich was born at Petersburg, Va., May 11, 1820, and was one of a family of eleven children. His father, a prominent Virginia lawyer, died when the deceased was but six years old, and an education and a start in life had to be secured as the result of many self-denials, and an indomitable perseverance and personal energy. Entering school at Greencastle, Indiana, where the family afterward resided, Dr. Goodrich finished his education —at the same time contributing to the support of his mother and her family. His next step in life was to enter the Medical College of Cincinnati, Ohio, where he graduated in 1845, and immediately began the practice of his chosen profession at Richmond, Indiana, where he remained until 1848, when he removed to

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Oxford, Ohio, where he remained until 1868, the date of his removal to Minneapolis. Since he made this city his home, more than twelve years ago, his daily life has been familiar to all, and does not need to be reviewed. He purchased upon his arrival, of T. A. Harrison, his present homestead, where he has ever since resided, making many friends and building up an extensive practice. As a citizen he has always been public spirited, enterprising and above reproach. In the year 1848, deceased was married to Miss Mary A. Wall, of Richmond, Indiana, the mother of the only surviving children, all but one of whom are residents of Minneapolis. They are: Mrs. Thomas Lowry, Mrs. Volney S. Irish, E. L. Goodrich, and Calvin Goodrich, Jr. Mrs. Goodrich died on the 25th day of the present month, eight years ago, loved and mourned by all who knew her. In 1875 Dr. Goodrich was re-married to Mrs. Harriet Dodman, of Worcester, Mass., who survives her husband, and has the sympathy of friends and the entire community in the deep affliction which has befallen her. Deceased had been ill for several weeks, death finally resulting from pneumonia and quick consumption.

Items.

THE TREATMENT OF WRITERS' PALSY, OR *Crampe des Eirwains.*

The symptoms of writers' palsy are well known and vary from the mild fatigue of the fingers employed in holding the pen in slightly developed forms of the trouble, to severe pain or ache of the overused digits, with tender points over several articulations and occasional ache of the entire extremity. There is rarely a true paralysis, but, in aggravated cases, mild arthritis, usually of the right first carpo-metacarpal or metacarpo-phalangeal articulation, due without doubt to the fact that the pen or pencil, when supported in the ordinary Spencerian position as taught in the schools, while guided by the extremeties of the three first fingers,

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requires that the pressure of the second and third should be completely antagonized by the first or the thumb. Moreover the action of the hand in chirography is invariably from left to right of the page and it thus becomes necessary for the thumb to do the exclusive work of pushing the pen the entire distance, as the other fingers are, in consequence of their position, incapable of exciting any tractile face—that is when the fingers alone perform the task. When the motions of the pen are performed by the muscles of the arm or forearm the strain of course falls upon the latter.

The relief of this condition, never accomplished while the exciting cause is in operation, calls for rest of the affected part; and this demand, when the writer is supporting himself, or as is often the case, others besides himself, by his penmanship, is frequently uttered in vain. The prompt and permanent relief of the entire trouble by the use of the type-writer is now an acknowledged fact.

It is proper to add that this statement is made, not for the purpose of enumerating the merits of this exceedingly ingenious piece of mechanism, but to call attention to its remarkable value to those afected with writers' cramp. We are not in communication with those engaged in the sale of the instrument nor are these paragraphs penned under the stimulus of any of those ingenious promptings which the modern advertiser has made familiar to the public. The opinion expressed here is based upon a knowledge of some fifteen cases, in each of which the writer was surprised and delighted with the relief attained.

It is well known that the keys of the type-writer are moved by both hands and the work of each may be divided between as many fingers as the skill of the operator can employ. The labor is then distributed to both superior muscles, and, what is more, the gentle force required is not lateral, as in penmanship, but in the direction of gravity. Thus it happens that the work of an entire business day is accomplished with less fatigue than an hour's labor with the now old-fashioned pen.

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SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Dec. 1 and 15.
West Chicago Medical Society—Mondays, Dec. 8 and 22.
Biological Society—Wednesday, Dec. 3.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—2 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard; 3 p. m., Diseases of the Chest, Prof. Ingals.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Quine.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Dr. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, by Prof. Jenks.
Rush Medical College—2 p. m., Diseases of Children, by Dr. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn; 3 p. m., Orthopœdic, by Prof. Owens.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Prof. Montgomery; 2 p. m., Gynæcological, by Prof. Fitch.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.

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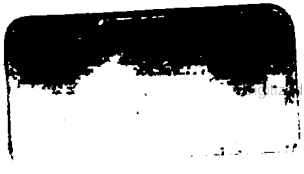

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